EFFECTIVENESS OF PELVIC ROCKING EXERCISE ON DYSMENORRHEA AMONG ADOLESCENT GIRLS AGED 15-20 YEARS RESIDING IN SELECTED VILLAGES AT KANYAKUMARI DISTRICT.

DISSERTATION SUBMITTED TO

THE TAMILNADU DR. M.G.R. MEDICAL UNIVERSITY

CHENNAI

IN PARTIAL FULFILLMENT FOR THE DEGREE OF

MASTER OF SCIENCE IN NURSING

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BY

Mrs. S.CATHERIN JIJI

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SRI.K.RAMACHANDRAN NAIDU COLLEGE OF NURSING

Affiliated To The Tamilnadu Dr.M.G.R. Medical University,

K.R.Naidu Nagar, Sankarankovil, Tirunelveli District-627 753

Tamilnadu.

CERTIFICATE

This is a bonafide work **Mrs. S.CATHERIN JIJI. M.Sc., NURSING (2010-2012 Batch)** II year student of Sri.k.Ramachandran Naidu College of Nursing, Sankarankovil-627 753. Submitted in partial fulfillment for the **Degree of Master of Science in Nursing,** under The TamilNadu Dr.M.G.R.Medical university, Chennai.

SIGNATURE: _____

Prof. Mrs.N.Saraswathi, M.Sc. (N)., Ph.D(N).,
Principal, Head of the Department of Paediatric Nursing
Sri K. Ramachandran Naidu College of Nursing
Sankarankovil (Tk), Tirunelveli (Dist).

COLLEGE SEAL

ACKNOWLEDGEMENT

The journey had been long, had to pass through bright & dark days, calm and storm. There were times when the path was rough and many at times it was smooth. There were many guiding and supporting hands in this journey, which made it easier. I take this opportunity to acknowledge them.

I thank **GOD ALMIGHTY** for his abundant blessings, guidance, wisdom, courage and strength to do this research study.

At the outset, I the researcher of this study express my heartful gratitude to **Mr. Vivekanandhan,** Chairman, and **Mrs.Premsantha**, Managing Trustee of Sri. K. Ramachandran Naidu College of Nursing for the precious opportunity of being a part of this esteemed institution.

I consider myself fortunate to have been piloted by **Prof**.**Mrs.N.Saraswathi, M.Sc (N).Ph.D(N),** Principal, Head of the Department of Child health Nursing, Sri. K. Ramachandran Naidu College of Nursing, who taught the concept of research and offered constant support, encouragement and guidance throughout my research study.

I am greatly obliged and extend my heartfelt appreciation and thanks to Associate professor, **Mrs.P.Subbalakshmi, M.Sc(N),**Head of the Department of Community Health Nursing, Sri .K. Ramachandran Naidu College of Nursing, For her constant supervision, patience, endurance and valuable suggestions, guidance and helped me in completion of my study successfully.

I express my humble gratitude to **Ms.G.Thangasubbulakshmi, M.Sc(N), Lecture** and **Mrs.R.Vijayalakshmi, M.Sc(N),** Lecturer department of Community health Nursing for their guidance and support for the study.

I express my sincere thanks to **Mrs.Jeya, M.sc (N),** Lecturer, Department of medical surgical nursing for her encouragement to complete the study successfully.

A memorable note of gratitude to **Dr. (Mrs) S.Vijaya lakshmi, Ph.D** for her valuable guidance and support.

I express my special thanks to **Dr.D.Manivannan Ph.D**, for his continuous and valuable suggestion offered in tool.

I express my heartful thanks to **Mrs.Lizy Merlin Lisha, M.sc (N**), for her genuine help and motivation.

I extremely thankful to the **Research Committee** members of Sri.K.Ramachandran Naidu college of Nursing.

I extend my sincere thanks to all the **Medical and Nursing Experts** who have given their enlighten ideas in giving shape to the study in its early stage.

A memorable note of gratitude to **Mrs.Soosammal,** Executive officer, Valvachagostam Town Panchayat, Kanyakumari District, Tamil Nadu, for granting permission and cooperation for conducting the study.

I also thank all the **respondents** for their active involvement, trust, co operation & support which they extended in completing the endeavor. Without their support and co operation this dissertation would not been possible.

I acknowledge my genuine gratitude to **Mr. P. Senthil kumar,** Professor of Bio-Statistics for his suggestions and guidance in data analysis and presentation of data.

I extend my sincere thanks to **Mr.Senthil kumaran, MA., M.Ed,** English Lecturer, for his patience and expertise in editing the content in English.

I am thankful to the **librarians** of Sri. K. Ramachandran Naidu college of Nursing and The Tamil Nadu Dr. M. G. R. Medical University for their cooperation in collecting the related literature for the study.

Words are inadequate to express the affection, inspiration and devotion shown by my husband **Mr.T.Brightsam,** my mother **Mrs. K.Kamalabai**, sister **Mrs.S.Jane Emmeline, brother Mr.S.Suder & my children B.Jijo and B.Jobin** for their unending words of encouragement and constant support throughout this study. This study would not been possible without the co-operation and constant support of my family members for their prayer and motivation.

A special bouquet of thanks to all my **lovable friends** who have helped me a lot to complete the study.

I extend my grateful thanks to those who helped me directly and indirectly during my project work.

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ABSTRACT

"An experimental study to assess the effectiveness of pelvic rocking exercise on dysmenorrhoea among adolescent girls aged 15-20 years residing in selected villages at kanyakumari district" was conducted by **Mrs.S.Catherin jiji** in partial fulfillment of the requirement for the degree of master of science in nursing at Sri.K.Ramachandran Naidu College of Nursing, under the Tamilnadu Dr.M.G,R.Medical University, Chennai during the year of April 2012.

The objectives of the study were,

- To assess the pre test level of dysmenorrhoea among adolescent girls in experimental and control group.
- To find out the effectiveness of pelvic rocking exercise on reduction of dysmenorrhoea among the adolescent girls in experimental and control group.
- To compare the pre and post-test level of dysmenorrhoea among the adolescent girls in experimental group.
- To associate the post test level of dysmenorrhoea among adolescent girls with selected demographic variables in experimental group.
- To associate the post test level of dysmenorrhoea among adolescent girls with selected demographic variables in control group.

The following hypotheses were set for the study

All hypotheses were tested at 0.05 level of significance.

H_1 Mean post-test level of dysmenorrhoea among adolescent girls in experimental group was significantly lower than the mean post- test level of dysmenorrhoea among the adolescent girls in control group.

H_2 Mean post - test level of dysmenorrhoea among the adolescent girls in experimental group was significantly lower than the mean pre- test level of dysmenorrhoea.

H_3 There was a significant association in the post test level of dysmenorrhoea among adolescent girls with selected demographic variables in experimental group.

H_4 There was a significant association in the post test level of dysmenorrhoea among adolescent girls with selected demographic variables in control group.

The study was based on Modified wiedenbach's helping art of clinical nursing model. The quantitative approach was used. The study was conducted in Murungavilai village and Kattukuzhivilai village at Kanyakumari district. The design adopted for the study was true experimental pre and post- test control group design. Simple random sampling technique was adopted for this study.

The data collection tools developed for generating the demographic data of the samples which consists of age, age at menarche, family income, religion. The Numerical rating pain scale was used to assess the level of dysmenorrhoea among adolescent girls. The tool was validated by six clinical experts consisting of three nursing experts and two medical experts and the reliability of the tool was established by **Dr.Erica jaques**. The instrument was found to be reliable. Pilot study was conducted in Periyatharaivilai village and Vagavilai village to find out the feasibility of the study and to plan for data analysis.

Data was collected in Murungavilai village and kattukuzhivilai village at kanyakumari district. Sixty adolescent girls were selected by simple random sampling technique method. The data related demographic variables were collected from the samples. The samples were scattered in two areas. The adolescent girls of the

experimental group were residing at Murungavilai village and the adolescent girls of the control group were residing at kattukuzhivilai village. Numerical rating pain scale was used to assess the pre-test level of dysmenorrhoea. Experimental group received pelvic rocking exercise for 3 weeks were as the control group did not. Post-test level of dysmenorrhoea was assessed by using same numerical scale. The data was analyzed using descriptive and inferential statistics.

The major findings of the study were,

- The mean post-test level of dysmenorrhoea among adolescent girls in experimental group was significantly lower than the mean post- test level of dysmenorrhoea among the adolescent girls in control group ($t=5.03, p<0.05$).
- The mean post - test level of dysmenorrhoea among the adolescent girls in experimental group was significantly lower than the mean pre- test level of Dysmenorrhoea ($t=5.61, p<0.05$) .
- There was no significant association between the post test level of dysmenorrhoea among adolescent girls in experimental and control group with their selected demographic variables.

On the basis of findings of the study it is recommended that

The study recommends the following future research.

1. Similar kind of study can be conducted to a large group to generalize the findings.
2. A comparative study can be done to determine the effect of pelvic rocking exercise and pharmacological management in reduction of dysmenorrhea among adolescent girls.
3. A descriptive study to assess the prevalence of dysmenorrhea among the urban and rural community of selected district in Tamil Nadu.

4. A study to assess the pharmacologic management and home remedies for dysmenorrhea.
5. The effectiveness of pelvic rocking exercise can be tested for other conditions like low back pain and incontinence of urine.
6. A study can be conducted to assess the knowledge and attitude of nurses on pharmacological management and other physical activities for reduction of dysmenorrhea in adolescent girls.

Recommendations based on the suggestions of the study subjects

1. The nurse educates the community regarding the techniques of pelvic rocking exercise among adolescent girls.
2. Conduct in-service education program and continuing education program for effective management in reducing the level of dysmenorrhoea among adolescent girls.
3. Ensure and conduct workshops, conferences, seminars on non-pharmacological methods to reduce the level of dysmenorrhoea among adolescent girls.
4. The research findings need to be publishing through conferences, seminars and publishing in nursing journal to the nursing staff.
5. The research findings help to building and strengthening the knowledge about the effects of pelvic rocking exercise to reduce the level of dysmenorrhoea among adolescent girls.

CONCLUSION

From the result of the study, it was concluded that rendering pelvic rocking exercise to the adolescent girls was effective in reduction of dysmenorrhoea. Therefore the investigator felt that, more importance should be given for pelvic rocking exercise to reduce dysmenorrhoea among the adolescent girls.

CHAPTER 1

INTRODUCTION

"Pain is such an uncomfortable feeling that even

a tiny of it is enough to ruin every enjoyment"

-Will Rogers.

BACKGROUND OF THE STUDY

An adolescent is somebody who is in between things. A teenager is somebody who's kind of permanently there. And so living with them through the various teenage hopes and sorrows and joys was curiously enough a maturing experience forme. **(Andrew Greeley, 2006).**

The Latin word "adolescere" means "to grow into adulthood" or "to grow into maturity". Developmentally adolescence means, "Achieving an identity. The Indian academy of pediatrics took lead in focusing the attention on adolescence by declaring the year 2000 as the "Year of the Adolescents" and August 1st as the "Teenagers day" **(Wadhwa, 2006).**

Adolescence is defined as the Period from the onset of Puberty to the termination of physical growth and attainment of final adult height and characteristics. The age group of adolescent is 10-20 years **(Penny simkin, 2005).**

Adolescence is divided into three phases: early, middle and late adolescence. Early adolescence means 10-13 years, middle adolescence means14-16 years and late adolescence means 17-20 years of age group. One billion Adolescents are there in this world equal to one fifth of world's population. India has reached one billion marks, out of which 21% are adolescents **(Martini, 2005).**

Puberty is initiated by hormone signals from the brain to the gonads. In response, the gonads produce a variety of hormones that stimulate the growth **.**The menstrual cycle begins at puberty. The first cycle known as menarche, naturally occurs between the age of 11-12 years. It continues until 45-50 years of age and then last period or menopause will occur **(Beers et al., 2004).**

The term dysmenorrhea is derived from the Greek word 'dys' meaning difficult/painful/abnormal, 'meno' meaning month, and 'rrhea',meaning flow. Dysmenorrhea is defined as the difficult menstrual flow or painful menstruation. Pain during or few hours before menstruation is one of the most common gynecologic problems in women. Many adolescent girls have severe dysmenorrhea in the first three years of menarche **(Patel and Deshpande, 2004).**

Dysmenorrhoea is the most common gynecologic complaints and represents the leading cause of periodic college or school absenteeism. It is one of the most common health problems among women during their reproductive years **(Pavin Tiwari ,2003).**

75% of adolescent girl's experiences menstruation related health problems. Primary dysmenorrhea is defined as painful menses in women with normal pelvic anatomy. It usually begins in during adolescence for the first six months after the attainment of menstruation. The affected women experiences sharp, intermittent spasmodic pain usually concentrated in the supra pubic area. Pain may be radiated to the back of the legs and lower part of the back. Systemic symptoms include nausea, vomiting, diarrhea, fatigue, mild fever and headache are fairly common. Pain usually develops within an hour of menstruation and peaks in the first or second day **(Metrack, 2002).**

Secondary dysmenorrhea is painful menstruation that occurs in the presence of an underlying disorder or pelvic pathology. This is sometimes referred to as psychogenic dysmenorrheal. It is attributed to an unpleasant sexual experience or a lack of information about menstruation and sexuality, combined with negative attitude towards sex. Secondary dysmenorrhea most frequently occurs in women in their late thirty years. Secondary dysmenorrhea is less prevalent than primary dysmenorrhea **(Edmondson et al., 2000).**

The risk factors for dysmenorrhea are less than 20 years of age, nully Para, heavy menstrual flow, smoking, and attempts to lose weight, physical activity disruption, depression and anxiety. Most of the adolescent girls experiences cramping abdominal pain, back pain, leg pain, but in few girls are experiencing intolerable pain and incapacitating (**U.S. Department of Health and Human service, 1999).**

Normally the hormone prostaglandin is produced in the uterus. The increasing activity of prostaglandin may cause proliferation of endometrium and cause uterine contraction. The pain associated with premenstrual syndrome is generally related to breast tenderness and abdominal bloating rather than a lower abdominal cramping pain **(Gilany et al., 1996).**

Some home remedies are available for dysmenorrhea such as applying hot fomentation to the lower abdomen, lightly doing circular massage with the help of fingertips around the lower abdomen, legs were elevated while lying down, or lie on a side with the knees bent. Practicing relaxation techniques such as meditation or yoga (U.S. Department of Health & Human Service, 1989).

Some specific exercises like pelvic tilt can be effective way of relieving menstrual pain, Kegel exercises can help strengthen the pelvic muscles, Standing Forward Bend Pose exercise can helped reduce menstrual cramps, anxiety and headache. Recling bound angle pose exercise can be reduced irregular periods and menstrual cramps, pelvic rocking exercise help in smoothing an aching back and relieving dysmenorrhoea **(Columbia University Medical Center ,1987).**

Pelvic rocking exercises, an exercise which contracts deep abdominal muscles and buttocks by taking deep breath, so that a small movement takes place inside the uterus **(University of Maryland medical center, 1986).**

Pelvic rocking exercise has been found to relieve menstrual discomfort, smoothening in aching back, relieving pain, improving flexibility, restoring mobility, increasing circulation in the discs and spinal tissues, releasing the tight back muscles and maintaining good abdominal tone (**Strinic et al., 1985).**

Pelvic rocking exercise is increased flexibility and strengthening the back and abdominal muscles. This exercise was also associated with a reduction of dysmenorrheal discomfort. Family physicians reported that 90% of menstruating girls have relieved pain by doing Pelvic rocking exercise. This exercise helps to strengthening the muscles of the abdomen and the lower part of the back. It helps to relieve back pressure and reduction in dysmenorrheal symptoms (**Dr.Moshe feldenkrais, 1984).**

Pelvic rocking exercise help in smoothing an aching back , relieving pain, increased vasodilatation and subsequent reduction in increased ischemia by release of endogenous opiates, specifically beta endorphins, in suppression of prostaglandins

and shunting of blood away from the viscera, resulting in the increased circulation to the pelvis and relieved from dysmenorrhea**(Colombia university medical center,1982).**

NEED FOR THE STUDY

Dysmenorrhea is a common problem among adolescent girls. According to the American Academy of Family physicians, 90% of menstruating women experiences this disorder usually in the adolescencent girls. Exercise may helps to alleviate the primary dysmenorrhea (**Wandan Marie, 2009).**

The prevalence of dysmenorrhea was reported in adolescent girls aged 20 years. The prevalence rate of dysmenorrhea in UK was reported (12%). The lowest prevalence was reported in Bulgaria (8.8%), highest prevalence was reported fenland in (94%) of adolescent girls (**Indian physiol pharmacy, 2008)**.

A cross sectional survey was conducted on the prevalence and determinants of dysmenorrhoea. Three thousand women aged 18-45 years were randomly selected. A total of 2494 woman were participated, in that 2262 woman were selected as a sample by random method. More than half reported as moderate to severe dysmenorrhoea (**Patel et al., 2006).**

Majority of the school girls attained menarche between 10-12 years. 45% of adolescent girls were reported pelvic pain during first five days of menstruation, 60% were reported primary dysmenorrhoea. The pelvic rocking exercise helps in smoothening and relieving the back ache and also improving the relaxation of muscles (**Burnet et.al., 2005).**

Menstrual problem was surveyed among the adolescent girls aged 15-19 years of age among the subjects, 75.8% were recorded as having problems related to menstruation. Physical problems were present in adolescent girls were reported as 35.2%, 49.5% reported abdominal pain, 41.8% had backache, 17.6% were reported as having depression (**Wadhwal et al., 2004).**

The prevalence of dysmenorrhea was 84.9%. About 11% had mild dysmenorrhea, 62.3% had moderate and 25.8% had severe dysmenorrhea. The three most common associated symptoms were mood change 84.8%, fatigue 70.7% and backache 63.7%. Other problems like 34% of the students were poorly concentrated in the class room, 18.2% were reported as school abcenteesm. Most of the affected students have been used drugs. In that 89.3% had analgesics, 73.4% of students were used acetaminophen, 16.4% of students were used mefenamic acid (**Maree T. Smith,200**1).

The incidence of dysmenorrhea in adolescents were reporting as high as 92% (1992). In that 38% were reported missing school due to dysmenorrhea, 33% were reported missing individual classes. The peak incidence of Primary dysmenorrhoea occurs in late adolescence period and the early twenty years of the age group. Dysmenorrhoea may be affected more than half of menstruating women. A Survey was conducted in 113 patients in a Family practice setting,the prevalence of dysmenorrhea was 29% to 44%, In that 59% of adolescent girls with dysmenorrhoea was affected by house hold activities , Sports had been affected by 51%, class participation affected by 50%, Social activities affected by 46%, not doing home work by 34% (**Andersch, 1999).**

Treatment of dysmenorrhoea includes taking rest 58%, using medication 52%, application of heating pad 26%, drinking tea 20%, doing exercise 15% and using

herbs 7%. Dysmenorrhea is often classified as mild, moderate and severe pain intensity, impact on working ability, and requirement of analgesics. **(Mohammad Sharify, 1998).**

AfricanAmerican and Caucasian adolescents aged 12–17 years had similar rates of dysmenorrhea in nationwide. The late 1990s found a rate of severe dysmenorrhea three times higher 42% than that previously reported for African Americans and Caucasians 14%, with nearly 20% girls were missing school days due to dysmenorrhea **(The U.S. National Health Examination Survey**, **1987).**

During menstrual cycle most of the adolescent girls are having school absenteeism due to dysmenorrhoea in my village. So the researcher has interested to do study regarding the pelvic rocking exercise on reduction of dysmenorrhoea. It can be done by ourselves, no need to spend money and less skilled procedure.

STATEMENT OF THE PROBLEM

An experimental study to assess the effectiveness of pelvic rocking exercise on dysmenorrhea among adolescent girls aged 15-20 years residing in selected villages at kanyakumari district.

OBJECTIVES

- To assess the pre test level of dysmenorrhoea among adolescent girls in experimental and control group.
- To find out the effectiveness of pelvic rocking exercise on reduction of dysmenorrhoea among the adolescent girls in experimental group and control group.

- To compare the pre and post-test level of dysmenorrhoea among the adolescent girls in the experimental group.
- To associate the post test level of dysmenorrhoea among adolescent girls with their selected demographic variables in experimental group.
- To associate the post test level of dysmenorrhoea among adolescent girls with their selected demographic variables in control group.

HYPOTHESES

All hypotheses will be tested at 0.05 level of significance**.**

H_1 Mean post- test level of dysmenorrhoea among adolescent girls in experimental group is significantly lower than the mean post- test level of dysmenorrhoea among the adolescent girls in control group.

H_2 Mean post- test level of dysmenorrhoea among adolescent girls in experimental group is significantly lower than the mean pre- test level of dysmenorrhoea.

H_3 There will be a significant association in the post test level of dysmenorrhoea among adolescent girls with selected demographic variables in experimental group.

H_4 There will be a significant association in the post test level of dysmenorrhoea among adolescent girls with selected demographic variables in control group.

OPERATIONAL DEFINITIONS

ASSESS

It refers to systematically measuring and monitoring the level of dysmenorrhoea before and after the pelvic rocking exercise by assessing Numerical rating pain scale.

EFFECTIVENESS

It refers to the outcome of the pelvic rocking exercise on dysmenorrhoea among the adolescent girls aged 15-20 years. It is measured in terms of the difference between the post test and pre test pain scores.

PELVIC ROCKING EXERCISE

Pelvic rocking exercises an exercise which contracts deep abdominal muscles and buttocks by taking deep breath, so that a small movement takes place inside the uterus. In this study pelvic rocking exercise is demonstrated to the samples in morning and evening (7 am and 6 pm) for the period of 3 weeks.

DYSMENORRHOEA

Dysmenorrhoea refers to difficult menstrual flow or painful menstruation of the adolescent girls.

ADOLESCENT GIRLS

Adolescence is defined as the Period from the onset of Puberty to the termination of physical growth and attainment of final adult height and characteristics.

ASSUMPTION

- Dysmenorrhoea is a most common health problem among female adolescents.
- Most of the adolescent girls were experiencing abdominal pain, backache and leg ache but in few of the adolescent girls are experiencing pains is intolerable and incapacitating.
- Pelvic rocking exercise may helped in alleviating menstrual discomfort like dysmenorrhoea, smoothening an aching back, relieving pain and maintaining good abdominal tone.

DELIMITATIONS

1. The study is delimited to the adolescent girls aged 15-20 years.
2. The study is delimited to the period of 4 weeks.
3. The study is delimited to the Murungavilai village and Kattukuzhivilai village at Kanyakumari district.

PROJECTED OUTCOME

1. The findings of the study will help the nurses to plan the administration of pelvic rocking exercise will reduce the dysmenorrhoea among the adolescent girls.
2. Pelvic rocking exercise will reduce the menstrual problems.

CONCEPTUAL FRAMEWORK

The conceptual framework is a set of interrelated concepts that are assemble in together in some rational scheme, in virtue of their relevance to a common theme. Conceptual framework helps to stimulate research and extensive knowledge. **(Polit, 1990).**

The conceptual framework for research study presents the measure on which the purpose of study is based. The framework provides the perspective from which the investigator views the problems.

The study is based on the concept that the effectiveness of pelvic rocking exercise in reduction of the dysmenorrhoea in adolescent girls. The investigator adopted the modified Ernestine widenbach's helping art of clinical nursing theory as a base for developing conceptual framework.

Ernestine widenbach's proposes helping art of clinical nursing theory in 1964 for nursing, which describes a desired situation and away to attain it. It directs action towards the explicit goal. This theory has 3 factors.

- Central purpose
- Prescription
- Realities

Central purpose

In my study the central purpose is to reduce dysmenorrhoea in adolescent girls.

Prescriptions

Pelvic rocking exercise will help to reduce the dysmenorrhoea.

Realities

The five realities are identified by widenbach are agent, recipient, goal, means, activities and framework.

Agent: The agent is one who has personal attributes, capacities, capabilities, commitment and competence to provide demonstration. In this study the researcher is the agent. It refers to plan for providing demonstration of pelvic rocking exercise to the adolescent girls.

Recipient: The recipient is the adolescent girls who had received a investigator intervention .In this study adolescent girls who received pelvic rocking exercise were the recipients.

Goal: The goal is to direct actions and suggests that the reason for taking those actions. In the study goal is to reduce the dysmenorrhoea after the demonstration of pelvic rocking exercise among adolescent girls.

Means: The means are the activities used by the investigator to achieve the goal. In this study pelvic rocking exercise is provided prior to the menstrual cycle with a purpose of reducing pain.

Framework: The framework refers to the facilities in which nursing is practiced. In this study framework refers to Murunga vilai village and Kattukuzhivilai village.

The conceptualization of nursing according to this theory consists of three steps as follows.

Step I **:** Identifying the need for help.

Step II : Ministering the need for help.

Step III : Validating that the need for help was met.

Step I: Identifying the need for help.

This step involves determining the need for help. The adolescent girls are identified based on the inclusive and exclusive criteria. Simple random sampling technique was used to assess the level of dysmenorrhoea in both groups using numerical rating pain scale.

Step II: Ministering the need for help.

This refers to provision of needed help. In my study after the selection of samples investigator provide a pelvic rocking exercise to the adolescent girls in experimental group for the period of 3 weeks. And control group not received on Pelvic rocking exercise.

Step III: Validating that the need for help was met.

The validation was done by doing a post test after (3 weeks) administration of pelvic rocking exercise by using the numerical rating pain scale for pain assessment. Pain is categorized by four views that is no pain, mild, moderate and severe.

It is accomplished by means of after rendering the pelvic rocking exercise and it is followed by analysis of data findings.

CHAPTER II

REVIEW OF LITERATURE

A Review of Literature Refers to the Process in which the investigator or reader examines the strength and weakness of the appropriate scholar publication.

Review of Literature of the present study in arranged in the following headings.

Section A: Studies related to Prevalence of dysmenorrhoea among adolescent girls.

Section B: Studies related to treatment of dysmenorrhoea among adolescent girls.

Section C: Studies related to exercise on dysmenorrhoea among adolescent girls.

Section A:Studies related to Prevalence of dysmenorrhoea among adolescent girls.

Amita singh.,et.al(2008) conducted a cross Sectional, descriptive study on the prevalence and severity of dysmenorrhoea, Conducted on 107 female medical students. This Study reported approximately 83% of moderate, 4.67% subjects had severe dysmenorrhea. Prevalence of other menstrual disorders like irregularity, prolonged menstrual bleeding, heavy menstrual bleeding and PCOD were 7.47%, 10.28%, 23.36% and 3.73% respectively. Abdominal cramping 31.67% and 8.68% was frequently missing college & classes respectively. Premenstrual symptom was the second most (60.50%) prevalent disorder and 67.08% reported social withdrawal.

Daley AJ. (2007) conducted a study to examine and compare the prevalence of dysmenorrhoea among female athlete and non athlete university student. Totally 300 healthy students from Tabriz University and Islamic Azad University. Findings suggested that no significant difference were observed in dysmenorrhea between two

groups ($p>0.05$). The result of this study suggest that there was no significant difference between athletic and non athletic female students.

Patel, et.al (2006) conducted a cross sectional survey study on prevalence of dysmenorrhoea .Three thousand women aged 18-45 years were randomly selected. A total of 2494 women participated (83%).The participants were asked questions regarding menstrual complaints over the past 12 months regarding the socio-demographic and reproductive risk factors. Vaginal swabs or urine specimens were collected for the diagnosis of reproductive tract infection. Total 2262 women were eligible for this study. More than half reported as moderate type and severe type of dysmenorrhoea. Findings suggested that burden of dysmenorrhoea is greater than any other gynecological complaints and is associated with significant impact.

Goldsten-ferber.s, et.al (2006) conducted a study on the association between somatization and perceived ability among Israeli Arab adolescents. The participants were 160 Israeli Arab adolescent females. The short version of the brief symptoms inventory was used to measure the level of somatization. The analysis of the attitudes toward menstruation among the adolescent females. The instrument revealed two significant composites perceived ability predicted the prevalence of dysmenorrhoea. No differences were found between the groups of menstrual pain and prevalence of dysmenorrhoea. Higher levels of somatization and lower level of perceived ability found among most Christians as well as a greater portion of Muslim and Druze and higher levels of religiosity were found among the rural residents of the sample.

Jacks.T H., et.al(2005) conducted a study on dysmenorrhoea and menstrual abnormalities among post menarche stage of secondary school girls in Maiduguri Nigeria.415 post menarchial school girls were selected randomly from 6 secondary

schools in Maiduguri metropolis and were interviewed. The mean menarchial age was 13.6 years. Menorrhagia was a very rare form of menstrual abnormality. Early menarche especially between the ages of 12-14 years was found to be associated with higher frequency of irregular menstrual cycles while this was found to be improved phenomena with late onset of menarche. About45% had one form of menstrual abnormality; amenorrhea 4.6%, oligomenorrhoea 18% and polymenorrhoea 21%.These were almost uniformly associated with all groups. Over 80% had attained menarche by the age of 14 years. Dysmenorrhoea was just slightly common by the ages of 15 and 16 years in which it occurs normally and more frequently.

Juhasz.AG., et.al(2005) conducted a study on dysmenorrhoea among adolescent girls. Totally 2337 girls were interviewed in this study regarding their menstrual cycle. The overall prevalence of dysmenorrhoea in these girls was 79.2%.In that 67% were described pain and abdominal cramping was severe. 61.2% of the girls were found to be a use of medication due to dysmenorrhoea. Despite these data only 1.2% of them had previous medical counseling because of their complaints. Findings suggested that is important to screen female adolescents for dysmenorrhoea and provide them with information on the disease and possible treatments.

EL.Gilany. AH., et.al (2005) conducted a study on epidemiology of dysmenorrhoea among adolescent students in Mansoura, Egypt. Total 664 female students from secondary schools in urban and rural areas were included in this study. Data was collected through a self administered questionnaire. About 75%of the students experienced dysmenorrhoea (mild 55.3%, moderate 30%, and severe 48%) Most of them did not seek medical advice although 34.7% treated themselves. The common symptoms are Fatigue, headache, backache and dizziness was found. No

limitation of their activities was reported by 47.4% of students with dysmenorrhoea, but this was significantly reported in a larger scale by the rest of the students with severe dysmenorrhoea. Significant predictors of dysmenorrhoea were older age, irregular or long cycle and heavy bleeding.

Burnett.MA, et.al (2005)conducted a study on the prevalence of primary dysmenorrhoea in Canada. The samples were selected and identified by stratified random sampling among 18 years of adolescent girls interviewed by telephone.2721 samples participated in these 1546 has regular menstrual cycle,60% having primary dysmenorrhoea,59% reported moderate to severe dysmenorrhoea, 51% reported severe type, 50% activities affected,17% missed their school. The prevalence of primary dysmenorrhoea decreased with increasing age (p=<0.001) and increased with smoking (p=0.002). Oral contraceptive users tend to have less pain than non users (p=0.005).Finding suggested that the majority of Canadian women suffered from dysmenorrhoea at the same time during the reproductive years.

Strinie.T, et.al (2003) conducted a study on Anthropological and clinical characteristics in adolescent women with dysmenorrhea 297 girls from several elementary and secondary schools were interviewed about the presence of the menstrual pain. There were 104(55%) samples with dysmenorrhoea and 133(45%) without dysmenorrhoea. Due to dysmenorrhoea 22% of the girls were using pharmacological drugs, 96% taking oral pills. No difference can observed between the girls in their chronological age, heights, weights, menorrheal age, quality of their menstrual cycles, cigarette smoking and sexual activity.

Banikain.C, et.al (2000) conducted a study in the prevalence and impact of dysmenorrhoea in Hispanic female adolescents. A total 706 Hispanic females

evaluated through the 31 items questionnaire it contain presence, duration, severity, treatment and limitations of dysmenorrhoea at a local urban high schools. In that 85% reported dysmenorrhoea, in those38% reported missing of school due to dysmenorrhoea during the 3 months prior to the survey and 33% reported missing their individual classes, 59%activities were affected, 51% affected sports,29% class grudes,58% treatment taken, using heating pad 28%, drinking tea 20%, doing exercise15% and using herbs 7%,14% consulted a physicion,49%saw a school nurse for helping their symptoms. Findings suggested that dysmenorrhoea is highly prevalent among Hispanic school girls.

Boln et al., (2000) Conducted a study is to determine the prevalence of dysmenorrhoea, its associated factors and its effects on school activities among adolescent girls in a secondary school in a rural district of Selangor, Malaysia. This is a cross-sectional study conducted in a public secondary school. A stratified random sampling of 300 female students (12 to 17 years old) from one to five classes were selected. A self-administered questionnaire consisting of 20 items was used to collect socio demographic and menstrual data. Pain intensity for dysmenorrhoea was measured by numerical rating scale. There was no significant association with mean age of menarche and duration of menstruation. The mean pain score was significantly higher in girls who reported to be unable to participate in sports ($p=0.008$) and with poor concentration in class ($p<0.05$).

Uma Devi (1999) Conducted a study on evaluate the menstrual problem specially dysmenorrhea and its severity in female medical students and its effect on their regular activities. This is across-sectional descriptive study conducted on 107 female medical students, All participants were given a questionnaire to complete

questions were related to menstruation to detect the severity of dysmenorrhea we used the verbal multi-dimensional scoring system, participants were given 20minutes to complete the questionnaire. The mean age of subject's at menarche was 12.5 (±1.52) years, with a range of 10-15 years. The prevalence of dysmenorrhea was 73.83%; approximately 4.67% of subjects had severe dysmenorrhea. The average duration between two periods and the duration of menstrual flow were 28.34 (±7.54) days and 4.5 (±2.45) days respectively.

Mahandiratta (1999) conducted a cross sectional community survey among the adolescent girls after 18 years of age regarding dysmenorrhoea. Girls with pain were more commonly found in the lower middle class were as those without pain belonged to upper middle class, 85% of girls in grades 9 through 12 reported dysmenorrhoea.Of these,38% reported missing school due to dysmenorrhoea during the 3 months prior to the survey and 33%reported missing individual classes. Activities affected by dysmenorrhoea included class concentration-59%, sports affected-51%,class participation affected 50%,socialization affected 46%,Not doing homework -35%.Treatments taken for dysmenorrhoea include rest -58% ,taking medications-52%, doing exercises-15% and using herbs-7%. Menstrual pain was significantly associated with school absenteeism and decreased academic performance, sports participation, and socialization with peers ($p<0.05$).

Pedron. Nuevo.N, et.al(1998) conducted a study on the incidence of dysmenorrhoea and associated symptoms among women aged 12-24 years Menstrual symptoms was assessed by using questionnaire. Total 1,066 students from Mexico city involved. The questionnaire included general data and 12 symptoms related to dysmenorrhoea. The frequency of absenteeism as a result of dysmenorrhoea in the

group 20-24 years. The systemic symptoms accompanying dysmenorrhoea were clustered for analysis. The most frequent symptoms associated with dysmenorrhoea such as nervousness, depression, irritability and sleeplessness.

Sundell G, Milson I, Andersch B, (1990) conducted a study on factors influencing the prevalence and severity of dysmenorrhea were assessed longitudinally in a representation of 900 sample of young women born in 1962. The prevalence of dysmenorrhea was lower ($p < 0.01$) at 24 years of age than at 19 years of age. Age at 24 years 67% of the women still experienced dysmenorrhea 10% reported dysmenorrheal which limited daily activity. The severity of dysmenorrhea was lower ($p<0.001$) at 24 years of age (3,4 SD 2,8)than at 19 years (4,1 SD 3,2).The prevalence and severity of dysmenorrhea were reduced ($p<0.05$) in 1981, but the women had a miscarriage or abortion, dysmenorrhea was reduced ($p<0.001$) in oral contraceptive users. The severity of dysmenorrhea was significantly associated with the duration of menstrual flow. Menarcheal age and cigarette smoking.

Section B: Studies related to treatment of dysmnorrmeoa among adolescent girls.

Jannie longbotton, Smith (2008) conducted a study on effectiveness of acupressure and analgesics for myofacial pelvic pain. The samples were selected by randomly 77.2% of antenatal mother's complaints with low back pain and myofacial pelvic pain was participated. Intervention (acupressure) started between the 15 to 30 weeks of pregnancy for 30 mts twice a week for 6 wks. During this period observed the fetal heart rate, maternal heart rate and mother blood pressure there is no serious complication. The authors used to power calculation of 90%, a statistically significant p value ($p<0.05$) and reported a low dropout rate.

Latha P.(2006) conducted a Pre-Experimental design to assess the effectiveness of planned education programme on knowledge related to relation technique in stress reduction during dysmenorrhoea among adolescent girls in selected school in Namakal (DT).The investigator selected 30 higher secondary school girls by stratified random technique. A semi structured questionnaire was used to assess the knowledge related to relaxation technique stress reduction during dysmenorrhea before and after the planned teaching programme. The gathered data were analyzed by using paired 't' test and chi squire test the finding suggested that the higher secondary school girls gained knowledge in post test score, 't'=0.0001(p>0.05).

Han S.H et.al., (2006) conducted a randomized Controlled trial study on the effect of aromatherapy for dysmenorrhoea in college students. The subject were 67 female college students has rated their menstrual cramps to be greater than 6 on a 10 point visual analogue scale who had no systemic or reproductive diseases and not use any contraceptive drugs Sample were randomized for three groups. First group was allotted for Aromatherapy (n=25) second group allotted for Placebgroup (n=20) third for Control group (n=22). The menstrual cramps were significantly lowered in the aroma group than in the other two groups at both post test time on the first and second day of menstruation after treatment. These findings suggested that aromatherapy using topically applied lavender, and rose in effective in decreasing the severity of menstrual cramps.

Chen CH et al., (2006) conducted a focus group study in Taiwan, on "The self care strategies of 23 female adolescent girls with primary dysmenorrhea". Thematic content analysis was used to explore and organize the data. The self care

strategies for dysmenorrhea reported by participants included reducing physical activity, modifying diet using herbal remedies or medication applying complimentary theripes paying attention to symptom clusters of discomforts, and expressing emotions. This is the first study to describe the self care strategies adopted by adolescent girls with dysmenorrhea in Asia. Data were analyzed in cultural contexts. It was found that knowledge of beneficial food related or herbal health practices can enable professionals to counsel this population more effectively.

Davis AR et al., (2006) conducted a randomized double-blind, placebo controlled clinical trial on oral contraceptives for dysmenorrhea in adolescent girls. Seventy six healthy adolescent girls aged 17 years or younger reporting moderate or severe dysmenorrhea samples randomly to receive either an oral contraceptives (Ethinylestradial (E_2) 20 microg and Levonorgestrol 100 microg) or a matching placebo for 3 months. Participants used their usual pain medications as needed during the trial. The mean mood menstrual distress questionnaire pain score was lower in the oral contraceptive group than the placebo group (3.1, standard deviation 4.5,p=0.004) study findings suggested that a low dose of effective oral contraceptives relieved dysmenorrhea associated pain more effectively than placebo.

O.Connell.k et al., (2006) conducted a cross sectional study on self treatment patterns among adolescents girls with dysmenorrhea. Healthy adolescents aged 19 years on younger (n=76) with moderate to severe primary dysmenorrhea were recruited. They used the validated pain subscale of the mood menstrual distress questionnaire and a 0-10 pain rating scale to estimate pain severity. The adolescents mean age was 16.8 years (SD=2).Similar proportions described themselves as white 26%, black 30% or Hispanic 28%.Dysmenorrhea was moderate in 42%, severe in 58%, associated with nausea in 55%, and vomiting in 24%, of those attending school

(n=66) 46% reported missing school for one or more days in a month due to dysmenorrhea a minority sought formal medical care, majority has used non-pharmacological remedies such as sleeping and heat application.

Ecles N.K. (2005) conducted a randomized double blinded, placebo controlled pilot study to assess the effectiveness of a static magnet to relieve dysmenorrhoea. Sixty five (65) women were (mean age 29.1-1.52 years) recruited from London newspaper. There was a Significant reduction ($p<0.02$) in pain in magnet group compared to placebo group. Pain score differences (Mc Gill pain score before and after use of device) were-17(-53, 13) (median and inter quartile ranges) in the magnetic group and -5.0 (-29, 27) in the placebo group's .A study concluded a reduction in irritability of symptoms in the magnetic group attained statistical significance ($p=0.056$).

Tseng yf, et.al(2005) conducted a randomized controlled trial study on "rose tea for relief of primary dysmenorrhea in adolescents". The use of rose tea to alleviate menstrual pain has long been a part of folk knowledge around the world but has not been studied scientifically. To determine the effectiveness of drinking rose tea as an intervention for reducing pain and psycho physiologic distress in adolescents with primary dysmenorrheal,130 female adolescents were randomly assigned to an experimental (n=70)and a control(n=60)group. Pre intervention and post intervention data at 1 month, 3 months, 6months were gathered on the bio-psychological outcome of dysmenorrhea. The results showed that compared with the control group, the experimental group perceived less menstrual pain, distress and anxiety and showed gather psycho physiologic well-being through time, at 1,3 and 6 months after the interventions. Findings suggested that drinking rose tea is a safe, readily available and simple treatment for dysmenorrhea.

D.Fraser, (1992) conducted a study on effectiveness of reflexology and ibuprofen on dysmenorrhea. Total 68 students with primary dysmenorrhea living in Isfahan the samples selected by simple random method. This study aimed to compare the efficacy of reflexology and ibuprofen on reduction of pain intensity and duration of menstrual pain. Quasi experimental design used for this study. The students randomly divided into 2 groups. In the reflexology group received 10 reflexology section 40 mts each in to consecutive menstrual cycle. The Ibuprofen group received 400 mg once a day. Visual analogue scale used to assess the pain. The findings of the study showed that the two groups had no statistically significant difference in terms of demographic characteristics ($p>0.05$).Considering the independent and paired 't' test showed that there was a significant difference in two group between intensity and duration of menstrual pain using visual analogue scale in each of the 3 cycles between reflexology and Ibuprofen groups ($p<0.05$).

Section C: Studies related to exercise of dysmenorrhoea among adolescent girls.

Brown J, (2009) conducted a study to assess the effectiveness of exercise in the treatment of dysmenorrhea. The investigator selected a sample by randomized control trials for comparing exercise with a control and intervention group in women with dysmenorrhoea. Control group has no intervention after that analysis done by using a menstrual distress questionnaire score during the menstrual phase findings are suggested that the exercise reduced the dysmenorrhea and its symptoms of primary dysmenorrhea. The score during the menstrual phase ($p<0.05$) and result is sustained decrease in symptoms over the three observed a cycles ($p<0.05$).

Abbaspour.z, Rostami.M (2006) conducted a randominized control trial to determine the effectiveness of exercise on primary dysmenorrhea. Total 150 high school girl students in Mashed slay man city that suffering from severe dysmenorrhea. Students were separated in two groups “exercise” and “non exercise” groups. Then the exercise group was given some exercise and the results are analyzed after the exercise was registered. The findings were suggested that the intending of the pain in the exercise group declined from 8.59 to 4.63 in the third period and 2.84 in the fourth period ($p<0.01$) The average of the duration pain declined from 7.15 to 4.22 in the third period and 2.23 in the fourth period ($p<0.01$).The average of using sedative tablets also decreased from 1.13 to 0.35 tablets in the third period and 0.0 tablets in the fourth period ($p<0.01$).

sebenick, et.al,(2001) conducted a study on effectiveness of music-assisted progressive muscle relaxation on the self reported symptoms of women suffering from primary dysmenorrhea.24 women with a mean age of 22.7 years participated in the study and were evenly divided in 3 groups: a control group (n=8),a progressive muscle relaxation only group(n=8), and progressive muscle relaxation with music group (n=8).After completing the modified shortened premenstrual assessment form (SPAF) which was used to determine the eligibility. Using MANOVA analysis of the total modified SPAF score for pretest and days 1-3 across each condition and time. There was the greatest change in means between the pretest of the PMR- music group and the day/ score of the same group when compared with the control and PMR-only group. Using pillar’s trace, the f-value was 0.833 (df=8) with a p value of 0.579($p<0.05$).

Ms.Lakshmi (2000) conducted a study on the effectiveness of pelvic rocking exercise on dysmenorrhea among school girls in Erode District. The investigator used pre-experimental design, one group pre test and post test design. Subject was selected by simple random technique to the experimental group. The experimental group assessed for pretest and were administering pelvic rocking exercise after three weeks post tests was done to determine the effectiveness' of the exercise control group has no intervention. The obtained mean difference between the pretest and posttest regarding dysmenorrhea score was 4.0.The obtained 't' value $t=8.26(p<0.05)$ was significant. Therefore the null hypothesis (H_{01}) was rejected. The study concluded that pelvic rocking exercise was effective on dysmenorrhea.

G.J.Boyle (1993) conducted a study for randomized controlled trials comparing effect of aerobic exercise on mood states and menstrual cycle symptoms. A group of female regular exercisers age from 15-48 years (n=124) and a second group of female non exercisers (n=159) compared the menstrual distress questionnaire and the differential emotions scale premenstrual, menstrual and intramenstrual. The result of the study is reliability coefficient across the respective menstrual cycle phases for the higher order factors were 0.57(pre menstrual/ menstrual), 0.53 (pre menstrual/ inter menstrual), Median internal reliability coefficient fort the higher order factors were 0.83 (premenstrual), 0.83 (menstrual), and 0.78 (inter menstrual), respectively. A both instruments measure the state of variables, findings suggested that the variables were less stable across the menstrual cycle than were psychological and mood state variables (median co efficient) being of 0.81 (psychological), 0.53 (physical), 0.84 (hostility), 0.78 (Extravasations), and 0.89(neuroticism). Results suggest that woman who has been under taken regular, moderate, aerobic exercise show significantly lower levels of negative mood states than non exercisers.

CHAPTER: III

RESEARCH METHODOLOGY

Research methodology refers to the techniques used to structure a study and to gather and analyze information in a systematic fashion (**Polit & Hungler, 2008**).

Methodology includes the steps, procedures and strategies for gathering and analyzing the data in the research investigation.

This chapter deals with the research approach, research design, variables, settings, population, criteria for sample selection, sample size, sampling technique, development and description of tools, content validity, reliability, pilot study, data collection procedure and planned for data analysis and protection of human rights.

RESEARCH APPROACH

Quantitative approach was used for this study. In this the researcher lays out in advance the steps to be taken to maximize the integrity of the study and then follows those steps as faithfully as possible. (**Polit & Hungler, 2008**).

RESEARCH DESIGN

The research design adopted for this study was true experimental pre and post-test control group design. It is diagrammatically represented as,

GROUP	PRES-TEST	INTERVENTION	POST-TEST
Experimental Group (R)	O1	X	O2
Control Group (R)	O1	-	O2

Fig 2: Schematic representation of Research design

Key

R - Randaminization.

O1 - Pre test of experimental group.

O2 - Post test of experimental group.

X - Administered pelvic rocking exercise to the experimental group.

O1 - Pre test of control group.

O2 - Post test of control group

VARIABLES

Independent variable

Pelvic rocking exercise.

Dependent variable

Dysmenorrhoea.

SETTING OF THE STUDY

The setting of the study refers to area where the study was conducted. The study was conducted in Kanyakumari district. This district got four zones and I have selected southern zone by lottery method .Thirty eight villages comes under this zone among that villages the investigator selected two villages by simple random sampling method. In those two villages Murungavilai village was randomly assigned in experimental group and Kattukuzhivilai village was assigned in control group. The distance between two villages is 3 kilometers. This arrangement helped the investigator to carryout intervention for the experimental group and also reduces the interruption from the control group.

STUDY POPULATION

The study Population composed of adolescent girls aged 15-20 years were having dysmenorrhoea.

SAMPLE

The study samples were adolescent girls with dysmenorrhoea aged 15-20 years who fulfill the inclusive criteria residing in murungavilai village and kattukuzhivilai village.

SAMPLE SIZE

The sample size of the study was 60, among them 30 samples were allotted to experimental group and remaining 30 samples were allotted to control group.

SAMPLING TECHNIQUE

Step 1: The investigator conducted a survey to find out the adolescent girls aged 15-20 years in Murungavilai village and kattukuzhivilai village. Total population of the Murungavilai village had 4500 and the total adolescent girls in this village were 210 in that 170 adolescent girls were having dysmenorrhoea, from these adolescent girls I had selected 30 samples for experimental group by simple random sampling method.

Step 2: Another village was kattukuzhivilai village. Total population of this village had 3000, and the total adolescent girls in this village were 185 in that 146 adolescent girls had dysmenorrhoea from these adolescent girls I had selected 30 samples for control group by simple random sampling method.

CRITERIA FOR SAMPLE SELECTION

The sample was selected based on the following inclusion and exclusion criteria.

Inclusive criteria

1. Adolescent girls with regular menstrual cycle.
2. Adolescent girls aged 15-20 years.
3. Adolescent girls who had dysmenorrhoea during each menstrual Periods.
4. Adolescent girls who were available during the data collection period.

Exclusive criteria

1. Adolescent girls with irregular menstrual periods.
2. Adolescent girls who were following any other pharmacological drugs.
3. Adolescent girls who got married.

DEVELOPMENT AND DESCRIPTION OF TOOL

The tool consists of two sections.

- Section A
- Section B

SECTION: A

Comprised of demographic data of the samples which consists of four items such as age, age at menarche, family income, and religion.

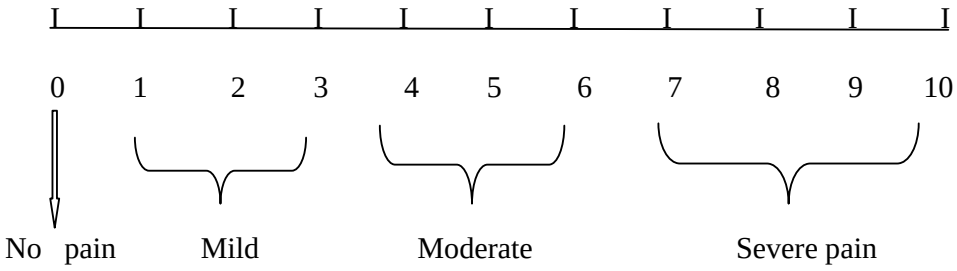
SECTION: B

It deals with .Numerical rating pain scale used to assess the level of dysmenorrhoea among adolescent girls. It consists of no pain, mild, moderate, severe.

The Numerical rating pain scale to assess the reduction of dysmenorrhoea among the adolescent girls. The content validity of the tool was established by six clinical experts. The reliability of numerical rating pain scale established by **Dr. Erica Jacques.** The instrument was found to be reliable.

A report of 0- No pain, 1- 3 indicates mild pain, 4-6 moderate pain, 7-10 severe pain. This scales work best when assessing pain intensity before and after therapeutic intervention.

NUMERICAL RATING PAIN SCALE



ASPECTS OF INTERVENTION

Pelvic rocking exercise when practiced for two times a day for three weeks has been found to be effective in reduction of dysmenorrhoea by producing endogenious opates, specifically beta endorphins in the body. In this study the investigator assembled the samples in a common hall. The Pelvic rocking exercise was demonstrated by the investigator and motivated the samples to do the exercise every day morning 7am and evening 6pm for the period of 3 weeks. The pelvic rocking exercise steps were submitted to the experts for establishing content validity.

The steps of pelvic rocking exercise includes

1. Lie down on your back, supporting the head with pillow.
2. Bend the knees.

3. Keep the foot flat on floor.
4. Place one hand under the curve of the back.
5. Place another hand on top of the abdomen.
6. Tighten the buttocks and abdominal muscles simultaneously, inhale and hold (1-2-3-4).
7. Exhale 4-3-2-1 and relax the muscles and feel your back flat on the underneath hand.
8. Repeated the last two steps for about 10 times (twice a day for 3 weeks).

This exercise helped in smoothing an aching back, relieving pain, increased vasodilatation and subsequent reduction an increased ischemia by release of endogenous opiates, specifically beta endorphins, in suppression of prostaglandins and shunting of blood away from the viscera, resulting in the increased circulation to the pelvis and relieve from dysmenorrhea. . No intervention was given to the control group of adolescent girls.

CONTENT VALIDITY

Validity refers to the degree to which an instrument measures what it is intended to measure (**Polit and Hungler 1999)**.

The content validity of the tool was established on the basis of opinion of two medical expert and four nursing experts in the field of community health nursing.

RELIABILITY OF THE TOOL

The tool used in this study was Standardized one.

PILOT STUDY

It was a rehearsal for main study. The researcher got permission from the principal and research ethical committee of Sri.K.Ramachandran Naidu college of nursing and HOD of community health nursing. A formal permission was obtained from the Valvachagostam, Executive officer, Kanyakumari district.

This district got four zones and I had selected southern zone by lottery method. Thirty eight villages comes under this zone among that villages the investigater selected two villages by simple random sampling method. In those two villages Periyatharaivilai village was randomly assigned in experimental group and Vagavilai village was assigned in control group. The concerned village president was also informed and Consent was obtained the collected data would be kept confidential.

The data was collected from 7 am to 6 pm. The investigator conducted a survey to find out the adolescent girls aged 15-20 years in Periyatharaivilai village and Vagavilai village. Total population of the Periyatharaivilai village had 3500 and the total adolescent girls in this village are 110 in that 70 adolescent girls were having dysmenorrhoea from these adolescent girls I had selected 3 samples for experimental group by simple random sampling method. Another village had Vagavilai village. Total population of this village had 2800 and the total adolescent girls in this village are 125 in that 96 adolescent girls having dysmenorrhoea from these adolescent girls I had selected 3 samples for control group by simple random sampling method.

Rapport was established with the girls and a brief introduction about the study was given. Consent was obtained from each adolescent girls and reassurance was provided that the collected data would be kept confidential. The data related to

demographic variable was collected from the samples and also assessed the pre-test level of dysmenorrhoea by using numerical rating pain scale.

After fifth day of menstrual cycle researcher gathered the experimental group of adolescent girls in common hall and demonstrated the pelvic rocking exercise and advised to do the exercise two times a day for the period of 3 weeks. Post test was done after 3 weeks. There was a significant reduction of dysmenorrhoea among the adolescent girls in the experimental group.

For the control group data were collected from the adolescent girls having dysmenorrhoea. But no intervention was given. Post-test level of dysmenorrhoea was assessed after 3 weeks. The adolescent girls showed that no significant reduction of dysmenorrhoea. The study was found to be feasible and hence the same procedure was decided to be followed in the main study. The samples selected for the pilot study was not included in the main study.

PROCEDURE FOR DATA COLLECTION

The researcher got permission from principal and research ethical committee and HOD of community health nursing, Sri .K.Ramachandran Naidu college of nursing. Before the data collection formal permission was obtained from the Executive officer of Valvachagostam town Panchayat, Kankakumari district.

This district got four zones and I had selected southern zone by lottery method. Thirty eight villages come under this zone among those villages the investigator selected two villages by simple random sampling method. In those two villages Murungavilai village was randomly assigned in experimental group and Kattukuzhivilai village was assigned in control group. The concerned village

president was also informed and Consent was obtained and reassurance was provided that the collected data would be kept confidential.

The data was collected from 02.04.2011 to 31.04.2011, between 7 am to 6 pm. The investigator conducted a survey to find out the adolescent girls aged 15-20 years in Murungavilai village and kattukuzhivilai village. Total population of the Murungavilai village had 4500 and the total adolescent girls in this village were 210, in that 170 adolescent girls had dysmenorrhoea, from these adolescent girls I had selected 30 samples for experimental group by simple random sampling method.Another village had kattukuzhivilai village. Total population of this village had 3000 and the total adolescent girls in this village were 185 in that 146 adolescent girls had dysmenorrhoea from this adolescent girls I had selected 30 samples for control group by simple random sampling method. Rapport was established with the girls and a brief introduction about the study was given. Consent was obtained from each adolescent girls and reassurance was provided that the collected data would be kept confidential. The data related to demographic variable was collected from the both groups and also assessed the pre-test level of dysmenorrhoea by using numerical rating pain scale.

From the sixth day (7-04-2011) onwards the researcher gathered the experimental group of adolescent girls in common hall and demonstrated the pelvic rocking exercise. This exercise was given 2 times a day (7am and 6pm) for the period of 3 weeks. Post test was done after 3 weeks. There was a significant reduction of dysmenorrhoea among the adolescent girls in the experimental group.

For the control group pre test level of dysmenorrhoea was assessed by using numerical rating pain scale similar to the experimental group and no intervention was

given. Post test was done after 3 weeks and there was a no significant reduction of dysmenorrhoea among the adolescent girls in the control group.

PLAN FOR DATA ANALYSIS

The data were analyzed by using both inferential and descriptive statistics.

Descriptive statistics

1. The frequency and percentage distribution were used to analyze the demographic variables among experimental group and control group of adolescent girls with dysmenorrhoea.
2. The frequency and percentage distribution were used to assess the Pre -test and post- test level of dysmenorrhoea among experimental group and control group of adolescent girls.
3. Mean and Standard deviation were used to assess the pre-test and post- test level of dysmenorrhoea among experimental group and control group of adolescent girls.

Inferential statistics

1. Unpaired ‘t’ test was used to compare the effectiveness of pelvic rocking exercise on reduction of dysmenorrhoea among experimental group and control group of adolescent girls.
2. Paired ‘t’ test was used to compare the effectiveness of pelvic rocking exercise on reduction of dysmenorrhoea among experimental group of adolescent girls.
3. Chi-square test was used to associate the post- test level of dysmenorrhoea among adolescent girls with selected demographic variables in experimental group and control group.

PROTECTION OF HUMAN RIGHTS

The proposed study was conducted after the approval of research committee of Sri.K.Ramachandran Naidu college of nursing and HOD of community health nursing. Permission was sought from the Executive Officer of the Valvachagostam Panchayat. The oral consent of each individual was obtained before data collection. Assurance was given to the study participants regarding the confidentiality of the data collection.

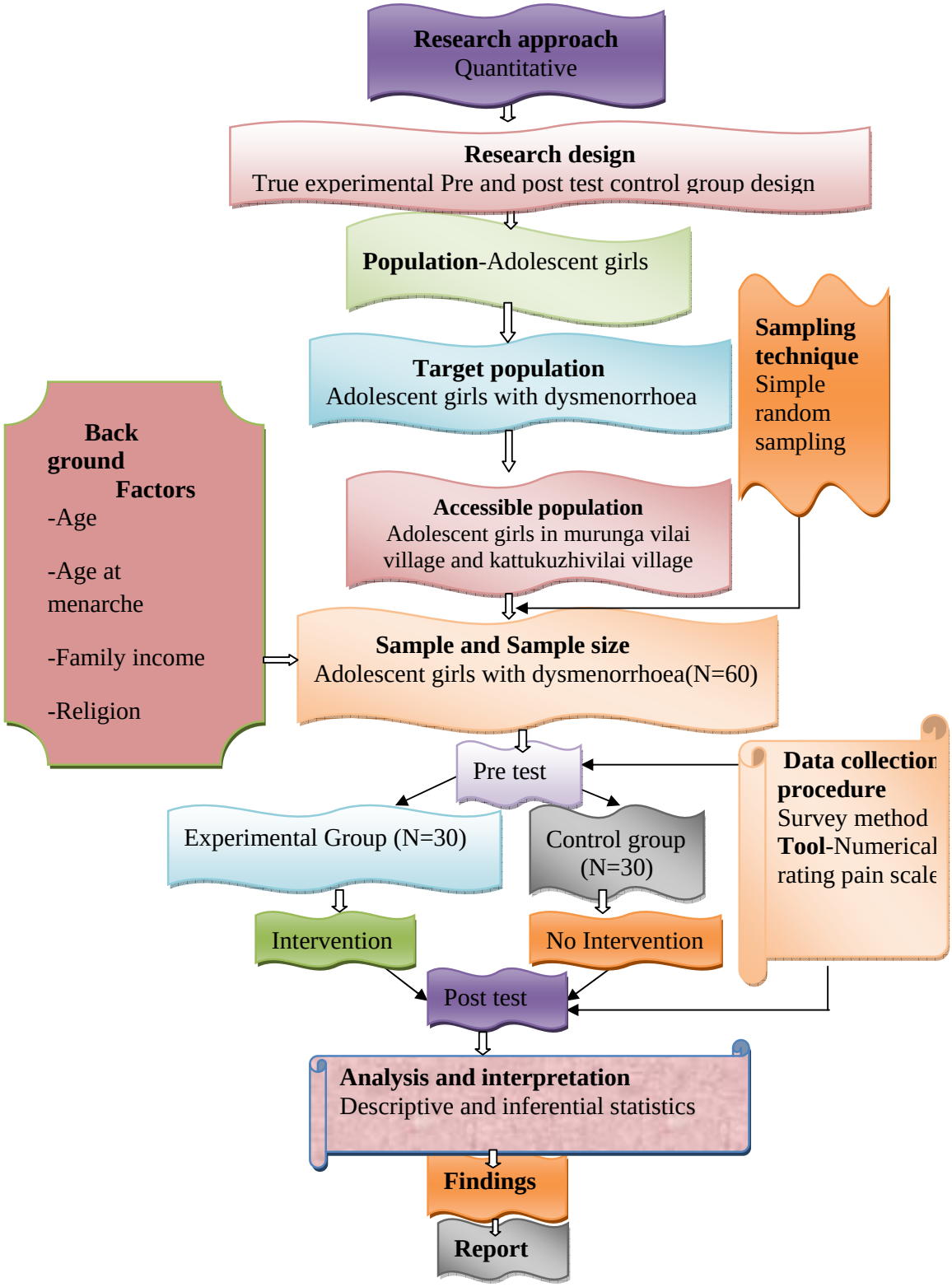


Figure 3: Schematic representation of research methodology

CHAPTER IV

DATA ANALYSIS AND INTERPRETATION

Data analysis is the systematic organization and synthesis of research data, and the testing of research hypothesis using those data **(Polit & Hungler, 2003).**

This chapter deals with the analysis and interpretation of collected data from the 60 adolescent girls with dysmenorrhoea in selected villages at kanyakumari district. The data has been tabulated and analyzed according to the objectives.

Analysis is the method of organizing, shorting and scrutinizing data in such a way that research question can be answered **(polit, 2005).**

ORGANIZATION OF DATA

Section A: Description of demographic variables of the adolescent girls with dysmenorrhoea.

- Frequency and Percentage distribution of demographic variables of adolescent girls with respect to age, age at menarche, family income, and religion.

Section B: Assessment of dysmenorrhea among the adolescent girls of experimental and control group.

- Frequency and Percentage Distribution of the pre-test level of dysmenorrhea among the adolescent girls of experimental group.
- Frequency and Percentage Distribution of the pre-test level of dysmenorrhea among the adolescent girls of control group.
- Frequency and Percentage Distribution of the post-test level of dysmenorrhea among the adolescent girls of experimental group.

- Frequency and Percentage Distribution of the post-test level of dysmenorrhea among the adolescent girls of the control group.

Section C: Comparison of level of dysmenorrhea among adolescent girls in experimental and control group

- Comparison of mean and standard deviation of pre and post- test level of dysmenorrhea among adolescent girls of experimental group.
- Comparison of mean and standard deviation of pre-test level of dysmenorrhea among adolescent girls between the experimental and control group.
- Comparison of mean and standard deviation of post-test level of dysmenorrhea among adolescent girls between the experimental and control group.

Section D: Association of post-test level of dysmenorrheal with selected demographic variables among experimental and control group of adolescent girls.

- Association of post- test level of dysmenorrhea among adolescent girls with selected demographic variables in experimental group.
- Association of post- test level of dysmenorrhea among adolescent girls with selected demographic variables in control group.

PRESENTATION OF DATA

- **SECTION A**: **DESCRIPTION OF DEMOGRAPHIC VARIABLES OF THE ADOLESCENT GIRLS WITH DYSMENORRHOEA**.

Table-1: Frequency and Percentage distribution of demographic variables of adolescent girls with respect to age, age at menarche, family income, and religion.

(N=60)

S. No	Demographic variables	Experimental group		Control group		Total	
		f	%	f	%	f	%
1	**Age**						
	15-16yrs	6	20	8	26.6	14	23.3
	17-18yrs	10	33.3	9	30	19	31.6
	19-20yrs	14	46.7	13	43.4	27	45
2	**Age at menarche**						
	Above 10yrs	-	-	-	-	-	-
	10-13yrs	15	50	14	46.7	29	48.3
	14-17yrs	15	50	16	53.3	31	51.6
	above 17yrs	-	-	-	-	-	-
3	**Family income**						
	above 2000	2	6.6	1	3.3	3	5
	2001-3000	10	33.3	12	40	22	36.6
	3001-4000	9	30	12	40	21	35
	above 4000	9	30	5	16.7	14	23.3
4	**Religion**						
	Christian	19	63.4	18	60	37	61.6
	Hindu	9	30	12	40	21	35
	Muslim	2	6.6	-	-	2	3.3
	Others	-	-	-	-	-	-

Table 1 depicts the frequency and percentage distribution of demographic variables of adolescent girls with respect to age, age at menarche, family income, and religion.

With regard to adolescent girls age out of 60 samples, 6(20%) were between the age group of 15-16 years,and10(33.3%) were between the age group of 17-18 years, remaining 14(46.7%) were in the age group of 19-20 years in the experimental group. Were as 8(26.6%) between the age group of 15-16 years, and 9(30%) were between the age group of 17-18 years, remaining 13(43.4%) were in the age group of 19-20 years in the control group.

With regard to age at menarche out of 60 samples,15(50%) were between the age group of 10-13 years, remaining 15(50%) were between the age group of 14-17 years in the experimental group. Were as 14 (46.7%) between the age group of 10-13 years, remaining 16(53.3%) were between the age group of 14-17 years in the control group.

With regard to family income out of 60 samples, 2(6.7%) were as <Rs.2000, 10(33.3%) were as Rs.2001-3000, 9 (30%) were as Rs.3001-4000, remaining 9(30%) were as above Rs. 4001 in the experimental group. were as 1(3.3%) <Rs.2000, 12(40%) 2001-3000, 12(40%) Rs.3001-4000, remaining 5(16.7%) above Rs.4001 in the control group.

The respect of religion majority of 19(63.4%) were christian,9(30%) were Hindu, remaining 2(6.6%) were Muslim in the experimental group were as 18(60%) Christian and12 (40%) Were as Hindu in the control group.

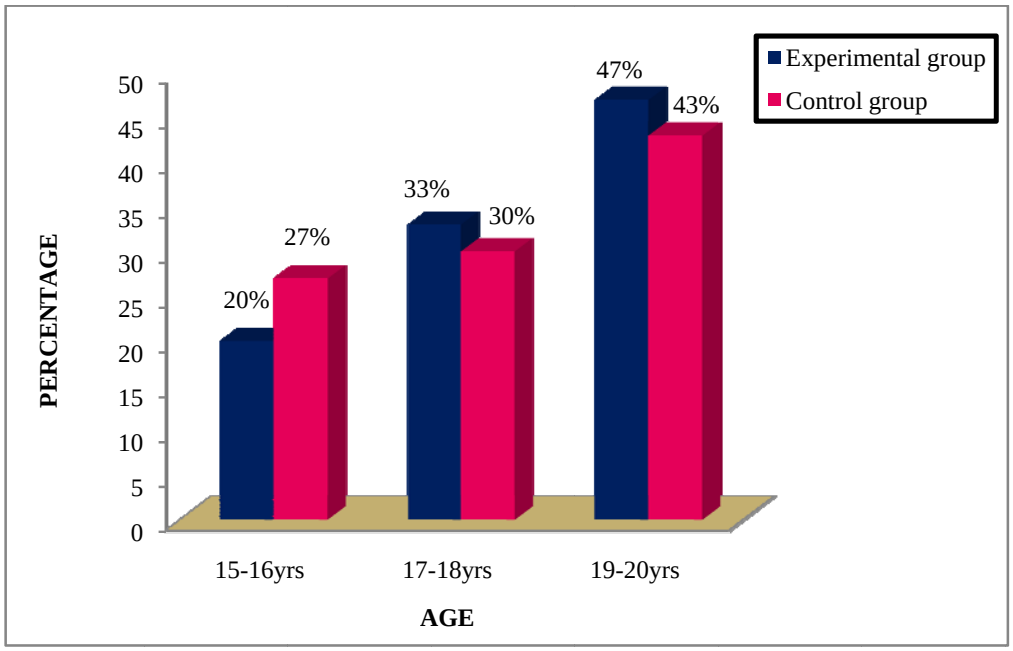


Figure 4: Percentage distribution of demographic variable of age in experimental and control group.

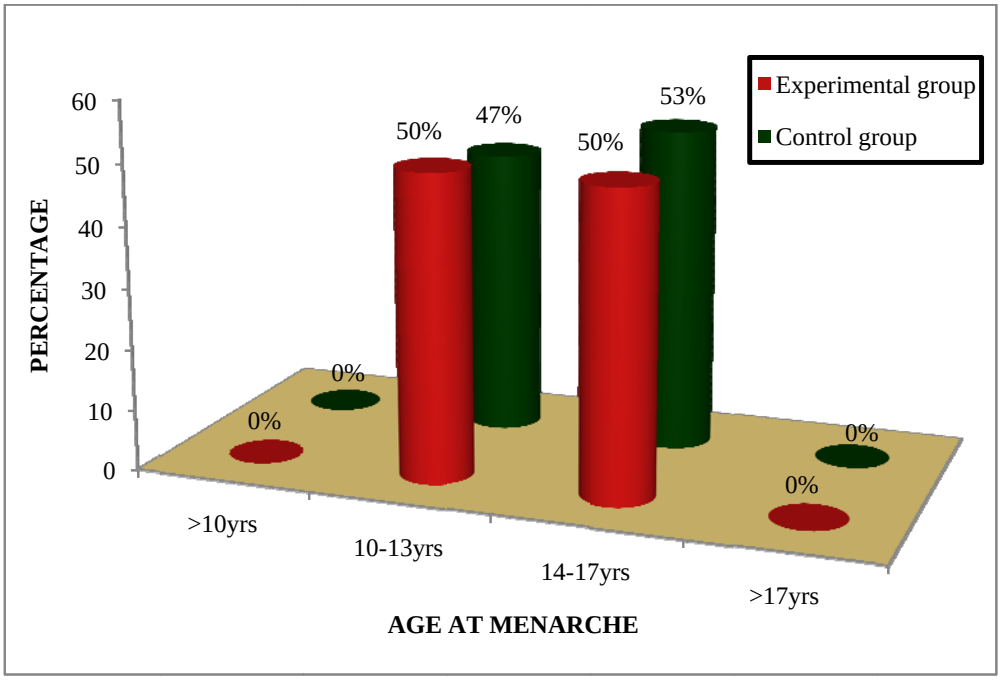


Figure 5: Percentage distribution of demographic variables of age at menarche in experimental and control group.

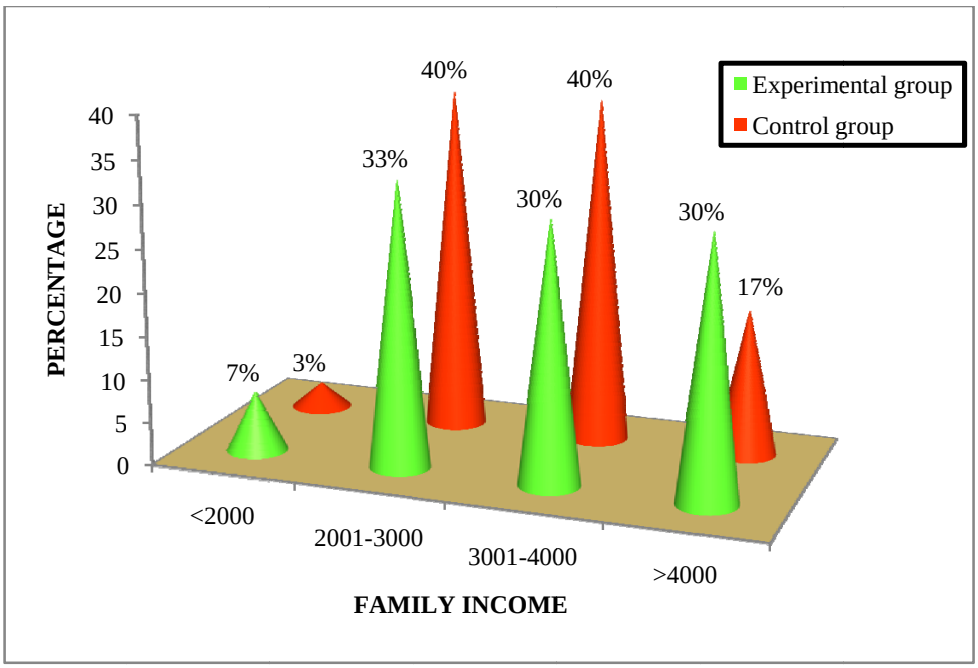


Figure 6: Percentage distribution of demographic variable of family income in experimental and control group.

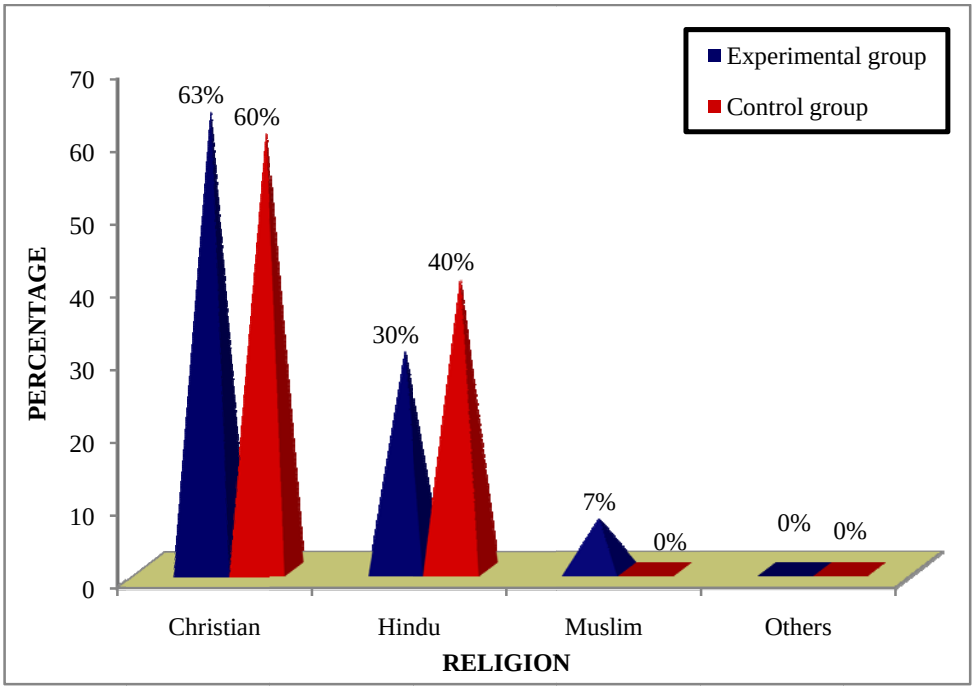


Figure 7: Percentage distribution of demographic variable of religion in experimental and control group.

SECTION B: ASSESSMENT OF DYSMENORRHEA AMONG THE ADOLESCENT GIRLS OF EXPERIMENTAL AND CONTROL GROUP.

Table-2: Frequency and Percentage Distribution of the pre-test level of dysmenorrhea among the adolescent girls of the experimental group.

(N=30)

S.NO	DYSMENORRHOEA	FREQUENCY	PERCENTAGE
1	No pain	0	0%
2	Mild	3	10%
3	Moderate	19	63.2%
4	Severe	8	26.8%

Table 2 depicts the pre test level of dysmenorrhea among adolescent girls in the experimental group. Among those samples 3(10%) adolescent girls had mild dysmenorrhea, 19(63.4%) adolescent girls had moderate dysmenorrhea, and remaining 8 (26.6%) adolescent girls had severe dysmenorrhea.

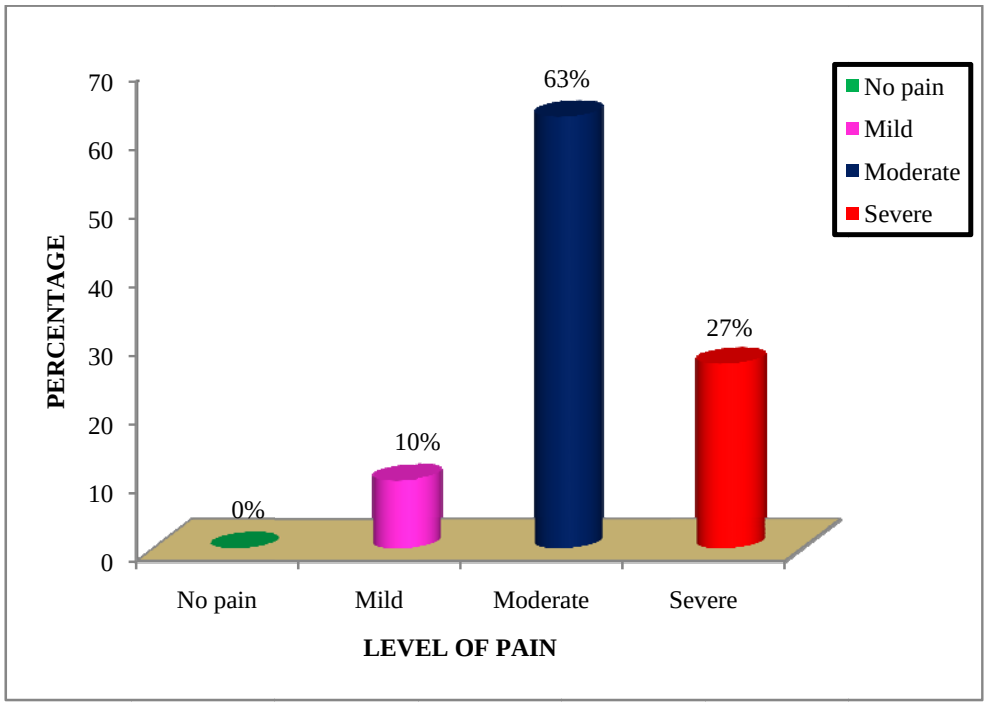


Figure 8: Pre assessment level of dysmenorrhea among adolescent girls in experimental group.

Table:3 Frequency and Percentage Distribution of the pre-test level of dysmenorrhea among the adolescent girls of control group

(N=30)

S.NO	DYSMENORRHOEA	FREQUENCY	PERCENTAGE
1	No pain	0	0%
2	Mild	8	26.7%
3	Moderate	16	53.3%
4	Severe	6	20%

The above table 3 depicts the pre test level of dysmenorrhea among adolescent girls in the control group. Among those samples 8(26.7%) adolescent girls had mild dysmenorrhea, 16(53.3%) adolescent girls had moderate dysmenorrhea, and remaining 6 (20%) adolescent girls had severe dysmenorrhea.

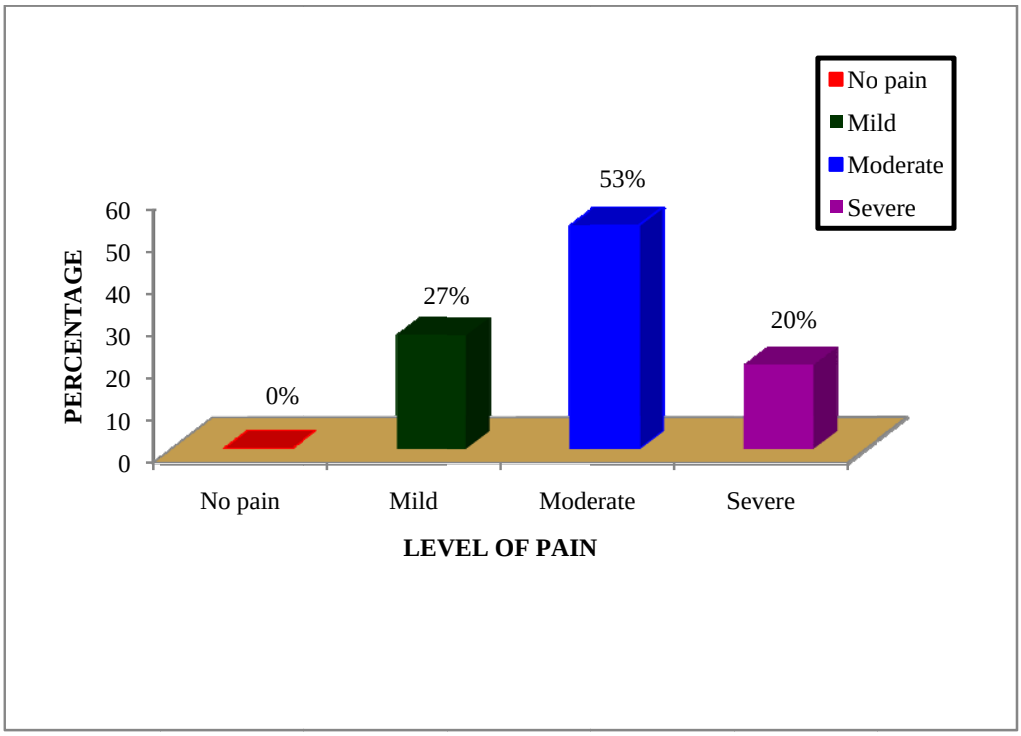


Figure 9: Pre assessment level of dysmenorrhea among the adolescent girls in control group.

Table:4 Frequency and Percentage Distribution of the post-test level of dysmenorrhea among the adolescent girls of experimental group.

(N=30)

S.NO	DYSMENORRHEA	FREQUENCY	PERCENTAGE
1.	No pain	4	13.3%
2.	Mild	16	53.4%
3.	Moderate	10	33.3%
4.	Severe	0	0%

The above table 4 depicts the post-test level of dysmenorrhea among adolescent girls in the experimental group. Among those samples 4(13.3%) adolescent girls had no pain, 16(53.4%) adolescent girls had mild pain, 10(33.3%) adolescent girls had moderate pain, and none of them had severe dysmenorrhea.

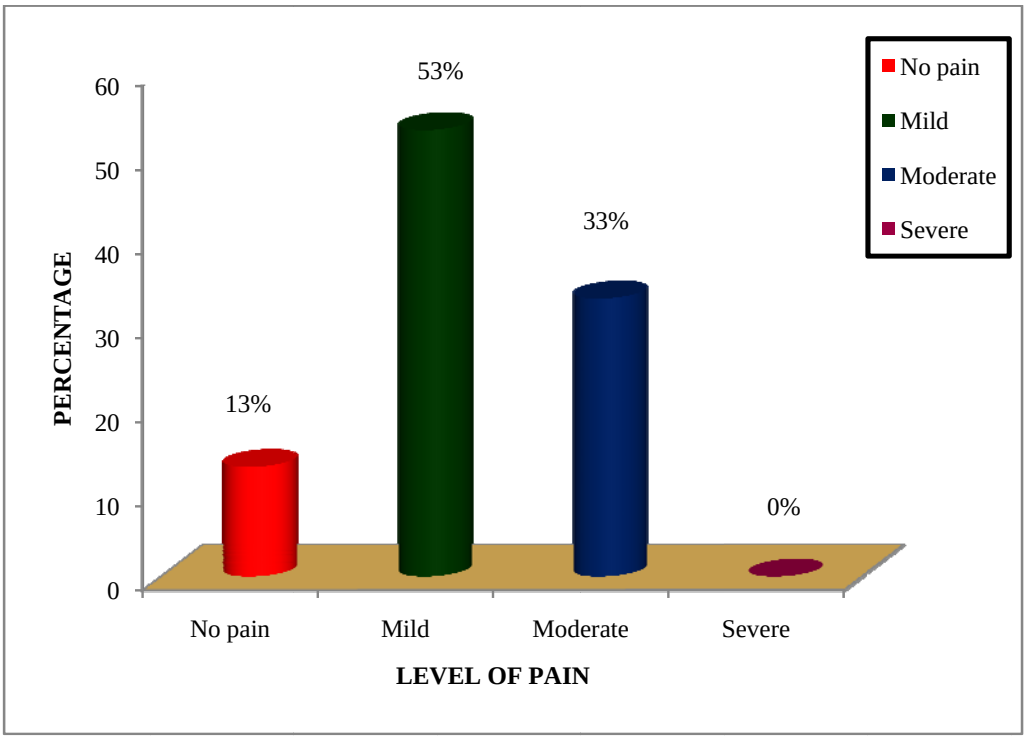


Figure 10: Post assessment level of dysmenorrhea among adolescent girls in experimental group.

Table: 5 Frequency and percentage distribution of the pos test level of dysmenorrhea among Adolescent girls in Control group.

(N=30)

S. NO	DYSMENORRHOEA	FREQUENCY	PERCENTAGE
1	No pain	0	0%
2	Mild	11	36.6%
3	Moderate	8	26.8%
4	Severe	11	36.6%

The above table 5 depicts the post test level of dysmenorrhea among adolescent girls in the control group. Among those samples 11(36.6%) adolescent girls had mild dysmenorrhoea, 8(26.8%) adolescent girls had moderate dysmenorrhoea, and remaining 11 (36.6%) adolescent girls had severe dysmenorrhea.

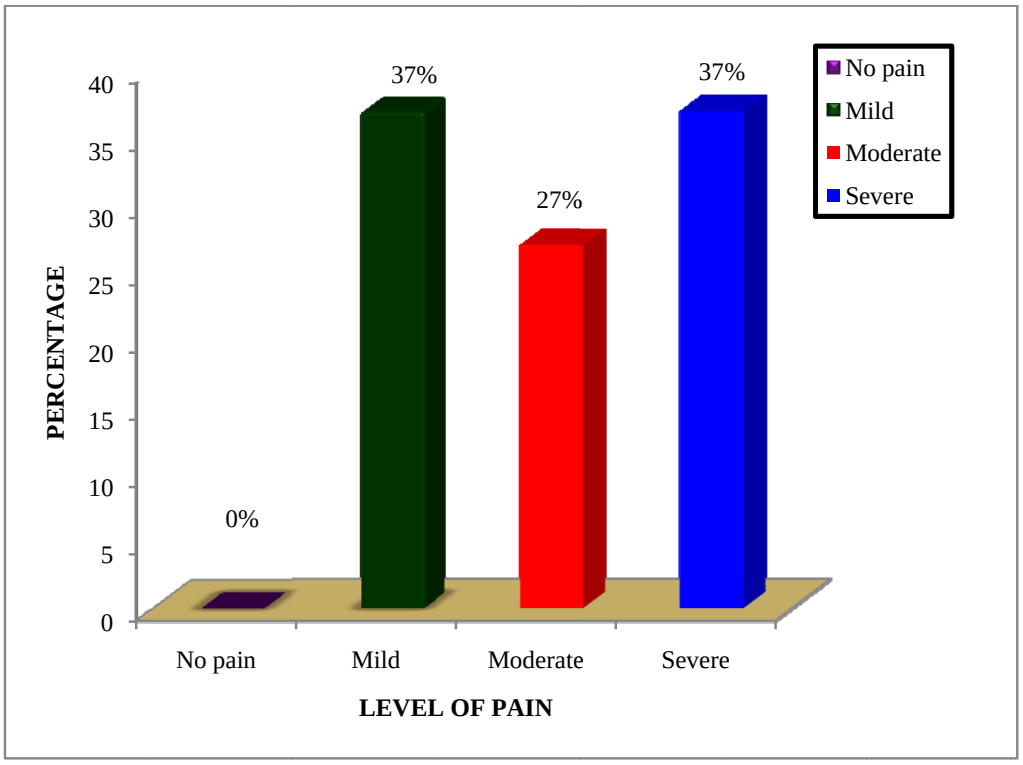


Figure 11: Post assessment level of dysmenorrhea among adolescent girls in control group.

SECTION C: COMPARISON OF DYSMENORRHEA AMONG THE ADOLESCENT GIRLS OF EXPERIMENTAL AND CONTROL GROUP

Table 6: Mean and standard deviation of pre and post-test level of dysmenorrhea of experimental group

(N=30)

Group	Pre- test value		Post- test value		Mean difference	't' test value
	Mean	SD	Mean	SD		
Experimental group	2.1	0.58	1.2	0.66	0.9	5.61 S

S: Significant

The above table reveals that the mean and standard deviation of pre and post test level of dysmenorrhea among experimental group.

In experimental group, it showed a mean value of 2.1 with standard deviation of 0.58 in pre test level and a mean of 1.2 with standard deviation 0.66 in post test level of dysmenorrhea among adolescent girls. The mean difference was 0.9 and the calculated 't' value was 5.61 which show that there was a significant difference between the pre and post-test level of dysmenorrhea among adolescent girls in experimental group was retained at $P<0.05$ level.

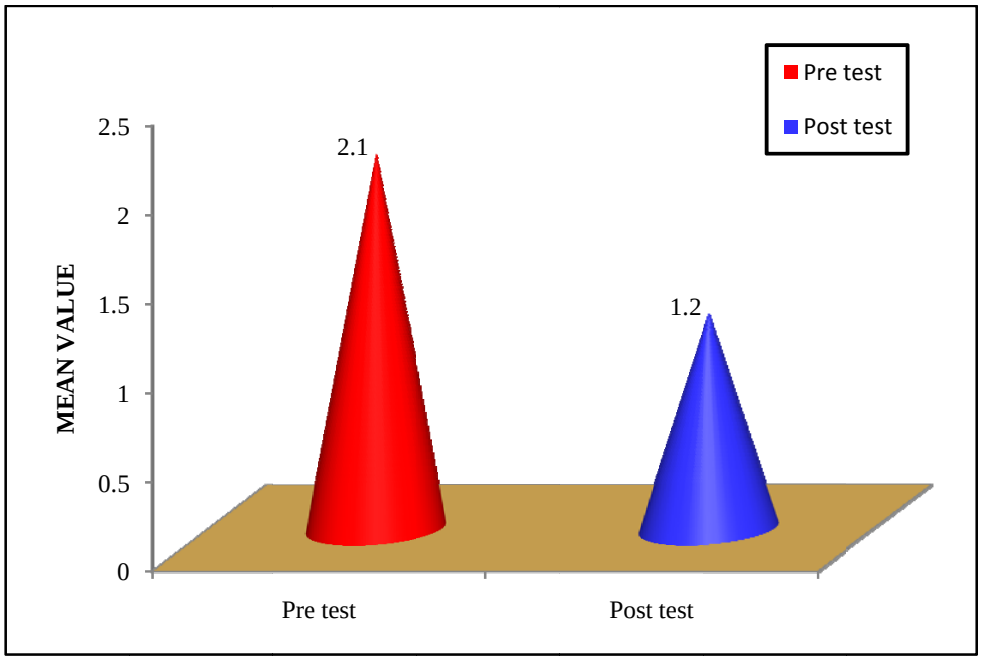


Figure 12: Mean of pre and post-test level of dysmenorrhea among adolescent girls of experimental group.

Table: 7 Comparison of mean and standard deviation of pre-test level of dysmenorrhea among adolescent girls between the experimental and control group.

(N = 60)

S. No	Group	Pre-test		't' test value
		Mean	SD	
1	Experimental Group	2.1	0.58	1.22 NS
2	Control Group	1.9	0.68	

NS: Non Significant

The above table 7 depicts the comparison of mean and standard deviation of pre-test level of dysmenorrhea among adolescent girls between the experimental and control group.

In experimental group, it showed a mean value of 2.1 with standard deviation of 0.58 in pre test level and a mean of 1.9 with standard deviation 0.68 in control group. And the calculated 't' value was 1.22 which showed that there was a no significant difference between the pre test level of dysmenorrhea among adolescent girls between the experimental and control group.

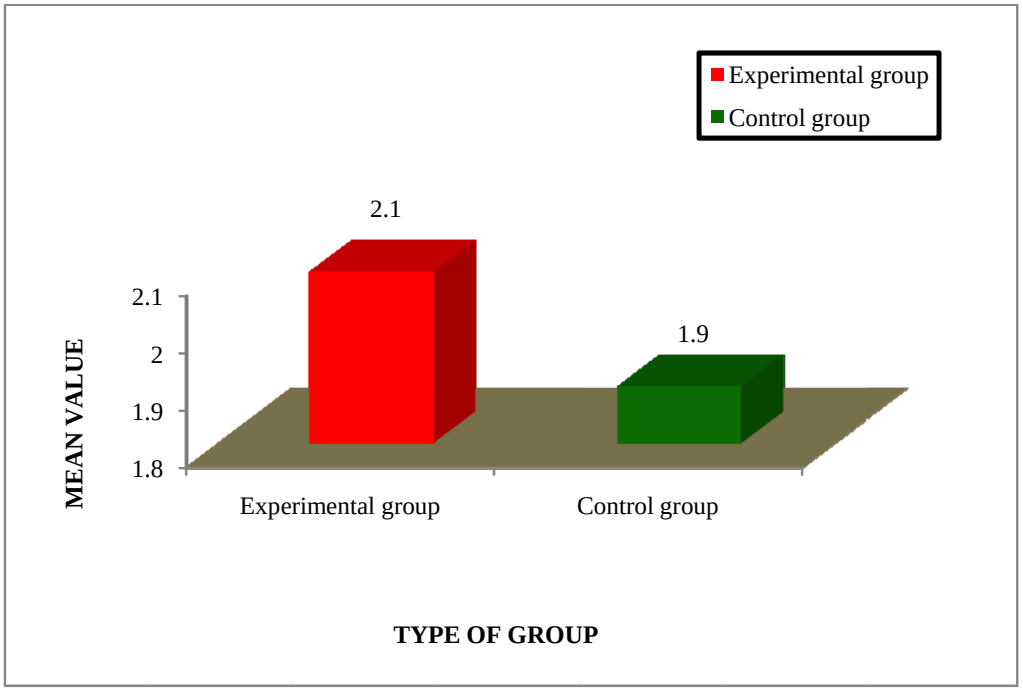


Figure 13: Comparison of pre mean value of dysmenorrhoea among adolescent girls of experimental and control group.

Table: 8 Comparison of mean and standard deviation of post-test level of dysmenorrhea among adolescent girls between the experimental and control group.

(N = 60)

S. NO	Group	Post-test		't' Test value
		Mean	S.D	
1.	Experimental group	1.2	0.66	5.03 S
2.	Control group	2	0.57	

S: Significant

The above table 8 depicts the comparison of mean and standard deviation of post-test level of dysmenorrhea among adolescent girls between the experimental and control group.

The mean post-test value in experimental group was 1.2 which was lower than the mean post-test value in control group was 2. This indicated that difference between the mean 0.8 was a true difference and has not occurred by chance. The difference between the two means could be due to the effect of pelvic rocking exercise. The calculated "t' value was 5.03 which shows that there was a significance difference in the effectiveness of pelvic rocking exercise between experimental and control group at $p<0.05$ level. Hence the research hypothesis stated that, there was a significance difference between the post test level of dysmenorrhea among adolescent girls between the experimental and control group was accepted.

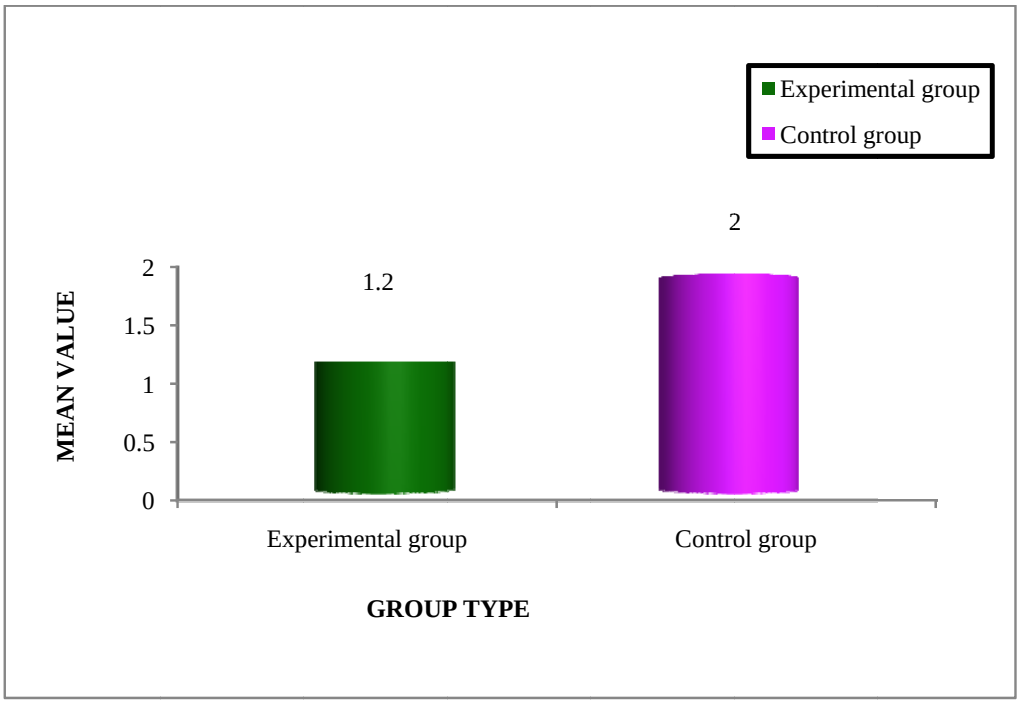


Figure 14: Comparison of post test mean value of dysmenorrhoea among adolescent girls between the experimental control group.

SECTION D: ASSOCIATION OF POST - TEST LEVEL OF DYSMENORRHEA AMONG ADOLESCENT GIRLS WITH SELECTED DEMOGRAPHIC VARIABLES IN EXPERIMENTAL AND CONTROL GROUP.

Table: 9 Association of post- test level of dysmenorrhea among adolescent girls with selected demographic variables in experimental group.

(N=30)

Sl. No	Demographic Variables	Dysmenorrhea								χ^2 value
		No Pain		Mild		Moderate		Serve		
		f	%	f	%	f	%	f	%	
1.	**Age**									
	15-16yrs	1	3.3	5	16.7	5	16.7	--	--	4.091
	17-18yrs	2	6.6	3	10	5	16.7	--	--	df=6
	19-20 yrs	1	3.3	8	26.7	--	--	--	--	N.S
2.	**Age at menarche**									
	Above10 yrs	--	--	--	--	--	--	-	--	8.412
	10-13 yrs	2	6.6	9	30	4	3.3	--	--	df=9
	14-17 yrs	2	6.6	7	23.4	6	20	--	--	N.S
	above 17 yrs	--	--	--	--	--	--	---	--	
3.	**Family Income**									8.807
	lessthan2000	1	3.3	1	3.3	3	10	--	--	df=9
	2001-3000	2	6.6	5	16.7	4	13.3	--	--	N.S
	3001-4000	1	3.3	5	16.7	3	10	--	--	
	above 4000	--	--	5	16.7	--	--	--	--	
4.	**Religion**									
	Christian	3	10	10	3.3	6	20	--	--	6.266
	Hindu	1	3.3	5	16.7	3	10	--	--	df=9
	Muslim	--	--	1	3.3	1	3.3	--	--	N.S
	others	--	--	--	--	--	--	--	--	

NS: Non Significant

The above table 9 depicts the association between age, age at menarche, family income and religion of post test level of dysmenorrhoea among the experimental group.

Chi-square was carried out the association between age, age at menarche, family income and religion of post test level of experimental group. In experimental group the chi-square value was 4.091, 8.412, 8.807, and 6.266 respectively. Which showed that there was no association between age, age at menarche, family income and religion at $p < 0.05$ level.

Table: 10 Association of post- test level of dysmenorrhea among adolescent girls with selected demographic variables in control group.

(N=30)

Sl. No	Demographic Variables	Dysmenorrhea								χ^2 Value
		No Pain		Mild		Moderate		Serve		
		f	%	f	%	f	%	f	%	
1.	**Age**									
	15-16yrs	--	--	2	6.6	1	3.3	8	16.7	7.855
	17-18yrs	--	--	7	23.4	2	6.6	--	--	df=6
	19-20 yrs	--	--	2	6.6	5	16.7	6	20	N.S
2.	**Age at menarche**									
	Above10 yrs	--	--	--	--	--	--	-	--	5.432
	10-13 yrs	--	--	7	23.4	4	13.3	3	10	df=9
	14-17 yrs	--	--	4	13.3	4	13.3	8	26.7	N.S
	above 17 yrs	--	--	--	--	--	--	--	--	
3.	**Family Income**									
	lessthan2000	--	--	1	3.3	--	--	--	--	10.124
	2001-3000	--	--	5	16.7	5	16.7	2	6.6	df=9
	3001-4000	--	--	5	16.7	3	10	4	13.3	N.S
	above 4000	--	--	--	--	--	--	5	16.7	
4.	**Religion**									
	Christian	--	--	6	20	3	10	9	30	2.023
	Hindu	--	--	5	16.7	5	16.7	2	6.6	df=9
	Muslim	--	--	--	--	--	--	--	--	N.S
	others	--	--	--	--	--	--	--	--	

NS: Non Significant

The above table 10 depicts the association between age, age at menarche, family income and religion of post test level of dysmenorrhoea among adolescent girls in control group.

Chi-square was carried out the association between the age, age at menarche, family income and religion of post test level of control group. In control group the chi-square value was 7.855, 5.432, 10.124, and 2.023 respectively. Which showed that there was no association between the age, age at menarche, family income and religion at $p < 0.05$ level.

CHAPTER V

DISCUSSION

This chapter deals with the discussion of result of the data analysis to evaluate the effectiveness of pelvic rocking exercise on dysmenorrheal among the adolescent girls. The problem stated was "An experimental study to assess the effectiveness of pelvic rocking exercise on dysmenorrhoea among adolescent girls aged 15-20 years residing in selected villages at Kanyakumari district".

The discussion was based on the objectives of the study and the hypothesis specified in the study.

MAJOR FINDINGS OF THE STUDY

- Majority of adolescent girls 14 (46.7%) were between the age group of 19-20 years in experimental group.
- Majority of adolescent girls 13 (43.4%) were between the age group of 19-20 years in control group.
- Majority of adolescent girls 15 (50%) were age at menarche between the age group of 14-17 years in experimental group.
- Majority of adolescent girls 16 (53.3%) were age at menarche between the age group of 14-17 years in control group.
- Majority of adolescent girls 10(33.3%) were getting the income of Rs.2001-3000 per month in experimental group.
- Majority of adolescent girls 12(40%) were getting the income of Rs.3001-4000 per month in control group.
- Majority of adolescent girls 19 (63.4%) Christian in experimental group.

- Majority of adolescent girls 18 (60%) Christian in control group.
- The calculated 't' value between the pre and post test level of dysmenorrhea among the adolescent girls in the experimental group was 5.61.
- The calculated 't' value between the post test level of dysmenorrhea among the adolescent girls in the experimental and control group was 5.03.

The result of the study has been discussed based on the objectives stated on the study;

The first objective was to assess the pre- test level of dysmenorrhea among adolescent girls in the experimental and control group.

With regard to pre test level of dysmenorrhea of control group revealed that the majority of 16 (53.3%) adolescent girls had moderate dysmenorrhea.

With regard to pre test level of dysmenorrhea of experimental group revealed that the majority of 19(63.4%) adolescent girls had moderate dysmenorrhea.

The second objective was to find out the effectiveness of pelvic rocking exercise on reduction on dysmenorrhoea among adolescent girls of experimental group and control group.

The post test mean value of experimental group was 1.2 with standard deviation 0.66. The mean value of control group was 2 with standard deviation 0.57 and the calculated 't' value was 5.03.

This indicates there was a significant difference in post test level of dysmenorrhoea among the adolescent girls between the experimental and control group at $p<0.05$ level.

Hence the research hypothesis stated H_1 denotes that "there was a mean post- test level of dysmenorrhea among adolescent girls in the experimental group is significantly lower than the mean post test level of dysmenorrhoea among adolescent girls in the control group" was retained at $p<0.05$ level.

The above result was supported by Latha **(2001)** conducted a study on the effectiveness of pelvic rocking exercise on dysmenorrhea among school girls. The investigator used pre-experimental design, one group pretest and posttest design. Subject was selected by purposive sampling technique to the experimental group. The experimental group assessed for pretest and were administering pelvic rocking exercise after three weeks post-test was done to determine the effectiveness of the exercise. The obtained mean difference between the pre-test and post-test regarding dysmenorrhea score was 4.0. The obtained't' value $t=8.26(p<0.05)$ was significant. Therefore the null hypothesis (H_{01}) was rejected. Pelvic rocking exercise was effective on dysmenorrhea among the school girls.

The third objective was to compare the pre and post test level of dysmenorrhea among the adolescent girls in the experimental group.

With regard to compare the pre and post test level of dysmenorrhea among the adolescent girls in the experimental group.

The pre test mean value of experimental group was 2.1 with standard deviation 0.58. The post test mean value of experimental group was 1.2 with standard deviation 0.66. The mean difference was 0.9 and the calculated 't' value was 5.61. Which shows there was a significant difference between the pre and post test level of dysmenorrhea among the adolescent girls in the experimental group.

Hence the research hypothesis stated H_2 denotes that "there was a mean post test level of dysmenorrhea among adolescent girls in the experimental group was significantly lower than the mean pre test level of dysmenorrhea in experimental group" was retained at $p<0.05$ level.

The fourth objective was to associate the post test level of dysmenorrhoea among adolescent girls with their selected demographic variables in experimental group

With regard to associate the post test level of dysmenorrhoea among adolescent girls with their selected demographic variables in experimental group**.** The calculated chi square value was 4.091, 8.412, 8.807, and 6.266 respectively. Which showed that there was no association between age, age at menarche, family income and religion in experimental group.

Hence the research hypothesis (H_3) stated that "There was a significant association in the post test level of dysmenorrhoea among adolescent girls with their selected demographic variables in experimental group" was rejected at $p<0.05$ level.

The fifth objective was to associate the post test level of dysmenorrhoea among adolescent girls with their selected demographic variables in control group.

With regard to associate the post test level of dysmenorrhoea among adolescent girls with their selected demographic variables in control group. The calculated chi square value was .855, 5.432, 10.124, and 2.023 respectively. Which showed that there was no association between age, age at menarche, family income and religion in control group.

Hence the research hypothesis (H_4) stated that “There was a significant association in the post test level of dysmenorrhoea among adolescent girls with their selected demographic variables in control group” was rejected at $p<0.05$ level.

CHAPTER VI

SUMMARY, CONCLUSION, IMPLICATIONS, RECOMMENDATIONS AND LIMITATIONS

This chapter deals with summary of the study, findings, conclusion drawn, implications, recommendations and limitations of the study.

SUMMARY

This study was undertaken to assess the effectiveness of pelvic rocking exercise on dysmenorrhoea among adolescent girls aged 15-20 years residing in selected villages at kanyakumari district.

Dysmenorrhea literally means painful menstruation. It is the most common gynecologic complaints 92% of adolescent girls reported as dysmenorrhea. The girls were experiencing cramping abdominal pain, backache, leg ache and some of the adolescent girls experiencing pain is intolerable and incapacitating and represents the leading cause of periodic school absenteeism. Depending on the cause painful menstruation is traditionally classified as primary and secondary dysmenorrhea. Primary dysmenorrhoea is pain during menstruation where there is no underlying disease or disorder of the uterus. Secondary dysmenorrhea is painful menstruation that occurs in the presence of an underlying disorder or pelvic pathology. Endometriosis is the main cause of secondary dysmenorrhea. Normally the hormone prostaglandin which is produced in the uterus. When the increasing activity of prostaglandin may cause proliferation of endometrium and uterine contraction this may leads to most of the adolescent girl's experiences dysmenorrhea during the menstrual periods**.**

Pelvic rocking exercise has been shown to be the ideal source of exercise for relieving dysmenorrhea in adolescent girls. The exercise has been helped to relieve a menstrual discomfort through an increased vasodilatation and subsequent decreased ischemia, release of endogenous opiates, specifically beta endorphins inhibiting the production & release of prostaglandins. This exercise strengthens the muscles of the abdomen and lower back. Evidence suggests that dysmenorrhoea can be reduced without medicine intake. Pelvic rocking exercise was very helpful to reduce pain, stimulates blood circulation, and relax the abdominal muscles. And also there is no complications for Pelvic rocking exercise.

The objectives of the study were,

- To assess the pre test level of dysmenorrhoea among adolescent girls in experimental and control group.
- To find out the effectiveness of pelvic rocking exercise on reduction of dysmenorrhoea among the adolescent girls in experimental group and control group.
- To compare the pre and post-test level of dysmenorrhoea among the adolescent girls in the experimental group.
- To associate the post test level of dysmenorrhoea among adolescent girls with selected demographic variables in experimental group.
- To associate the post test level of dysmenorrhoea among adolescent girls with selected demographic variables in control group.

The research hypothesis stated were,

All hypotheses were tested at 0.05 level of significance.

H_1 Mean post- test level of dysmenorrhoea among adolescent girls in experimental group was significantly lower than the mean post- test level of dysmenorrhoea among the adolescent girls in control group

H_2 Mean post- test level of dysmenorrhoea among adolescent girls in experimental group was significantly lower than the mean pre- test level of dysmenorrhoea.

H_3 There was a significant association in the post test level of dysmenorrhoea among adolescent girls with their selected demographic variables in experimental group.

H_4 There was a significant association in the post test level of dysmenorrhoea among adolescent girls with their selected demographic variables in control group.

The assumption of the study were,

- Dysmenorrhoea is a most common health problem among female adolescents.
- Most of the adolescent girls were experiencing abdominal pain, backache and leg ache but in few of the adolescent girls are experiencing pains is intolerable and incapacitating.
- Pelvic rocking exercise may help in alleviating menstrual discomfort like dysmenorrhoea, smoothening an aching back, relieving pain and maintaining good abdominal tone.

The review of literature collected for the studies related to

Section A: Studies related to prevalence of dysmenorrhea among adolescent girls.

Section B: Studies related to treatment of dysmenorrhea among adolescent girls.

Section C: Studies related to exercise of dysmenorrhea among adolescent girls.

The conceptual frame work for this study was developed based on the modified weidenbach's helping art of clinical nursing theory (1964). This theory provides comprehensive framework for identifying the need for help, ministering the need for help, validating the need for help was met.

The research design adopted for this study was a true experimental pre and post test control group design. The study was conducted in Murungavilai village and Kattukuzhivilai villages at Kanyakumari district.

The tool used for data collection consisting of demographic variables such as age, age at menarche, family income and religion. The numerical rating pain scale was used to assess the level of dysmenorrhea among adolescent girls.

The tool was validated by clinical experts consisting of four nursing experts and two medical experts and the reliability of the tool was established by **Dr**.**Erica Jacques**. The tool was found to be highly reliable.

The pilot study was conducted in Periyatharaivilai village and Vagavilai village at Kanyakumari district. Six samples that fulfilled the inclusive criteria were selected by using simple random sampling technique. Oral consent was obtained from the subjects. The data were collected by survey method. The pre test level of dysmenorrhoea was assessed by numerical rating pain scale. The investigator administered pelvic rocking exercise to the adolescent girls in experimental group who

fulfilled the inclusive criteria. Control group did not. After 3 weeks assessed the post test level of dysmenorrhoea among adolescent girls by using numerical rating pain scale.Findings showed that there was a significant difference between the experimental group of adolescent girls. The study was found to be feasible and practicable to conduct the main study

The main study was conducted in Murungavilai village and Kattukuzhivilai village at Kanyakumari district. The data was collected by survey method. The 30 samples were allotted to experimental group and 30 samples were allotted to control group by simple random sampling method. Pre test was assessed by numerical rating pain scale. The investigator administered pelvic rocking exercise to the experimental group of adolescent girls who fulfilled the inclusive criteria. The control group did not. After 3 weeks post test level of dysmenorrhoea assessed by using numerical rating pain scale. There was a significant difference between the experimental group of adolescent girls. The mean value in experimental group was 1.2 and mean value of control group was 2. Calculating‘t’ value was 5.03 which shows high statistical significant difference at $p<0.05$ level. There was a no significant association in the post test level of dysmenorrhoea among adolescent girls with their selected demographic variables in experimental and control group.

CONCLUSION

From the result of the study, it was concluded that rendering pelvic rocking exercise to the adolescent girls was effective in reduction of dysmenorrhoea. Therefore the investigator felt that, more importance should be given for pelvic rocking exercise to reduce the dysmenorrhoea among the adolescent girls.

IMPLICATIONS

The researcher had derived from the study the following implications that are of vital concern in the field of nursing practice, nursing education, nursing administration and nursing research.

Implication for nursing practice

The nurse working in the community has a key role to play in providing effective nursing care to the community includes improving the health status of adolescent girls and reducing the level of dysmenorrhoea, providing continue nursing intervention and health education.

- The nurses educate the adolescents girls regarding the steps of pelvic rocking exercise.
- The nursing person must have an in-depth knowledge about the steps of pelvic rocking exercise and its effect on dysmenorrhoea.
- The nurse should educate the community about non pharmacological management for dysmenorrhoea.
- The nurse should explain regarding the physiological and pathological types of dysmenorrhoea.

Implication for nursing education

- Nursing curriculum should ensure that students learns more about various modalities for dysmenorrheal and knowledge about the alternative therapies which can be incorporated with routine clinical care measures in the cure of various ailments.
- It should encourage students to exploit all the possible methods of nursing care to relieve dysmenorrhea and enhance comfort like providing the pelvic rocking exercise as an effective physical therapy in reduction of dysmenorrhea in adolescent girls.

Implication for nursing administration

- Conduct in-service education program in effective management of dysmenorrhea by providing pelvic rocking exercise.
- Collaborate with government programme like national iron deficiency anemia control programme and help to implement the government policies and procedures.
- Conduct school health programmed for screening the gynecological problems.
- Conduct workshop about the effect of pelvic rocking exercise on dysmenorrhea.
- Provide opportunities for nurses to attend training programs on non-Pharmacological methods for reducing dysmenorrhea.

Implication for nursing research

1. The findings need to be publishing through conference, seminars and publishing in nursing journal to the nursing staff.
2. The research findings help to building and strengthening the knowledge about the effect of pelvic rocking exercise on dysmenorrhea.

LIMITATIONS

- Only limited literature and studies were obtained from Indian context.
- Due to time constraints the investigator was unable to take larger samples for the study.
- Adolescent girls who were under the pharmacological management cannot be included in the study.

RECOMMENDATIONS

The study recommends the following future research.

1. Similar kind of study can be conducted to a large group to generalize the findings.
2. A comparative study can be done to determine the effect of pelvic rocking exercise and pharmacological management in reduction of dysmenorrhea among adolescent girls.
3. A descriptive study to assess the prevalence of dysmenorrhea among the urban and rural community of selected district in Tamil Nadu.
4. A study to assess the pharmacologic management and home remedies for dysmenorrhea.
5. The effectiveness of pelvic rocking exercise can be tested for other conditions like low back pain and incontinence of urine.
6. A study can be conducted to assess the knowledge and attitude of nurses on pharmacological management and other physical activities for reduction of dysmenorrhea in adolescent girls.

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APPENDIX A

GRANTING PERMISSION FOR CONDUCTING THE STUDY

SRI K. RAMACHANDRAN NAIDU
COLLEGE OF NURSING

Approved by Govt. of Tamilnadu and Indian Nursing Council / T.N.C
Affiliated to the Tamilnadu Dr. M.G.R. Medical University

K.R. Naidu Nagar - 627 753, Paruvakudi Village, Post Bag No.1, Karivalam (via)
Sankarankovil (Tk), Tirunelveli (Dt), Ph. : 04636 - 260950, Fax : 04636 - 260377, E - Mail : srikrncon@yahoo.com

18.04.2011

To

The Executive Officer,
Valvacha Kostam Town Panchayat,
Kanchikuzhi (Po),
Kanyakumari District.

Mrs. S. Catherin Jiji is a bonafide student of our college studying in M.Sc (N) programme. As a partial fulfillment of the university requirement for the award of M.Sc (N) degree, She needs to conduct research project.

Her chosen research project is as follows **"A study to assess the effectiveness of pelvicrocking exercise on dysmenorrhoea among adolescent girls aged 15-20 years residing in selected villages at Kanyakumari District, April 2011"**.

Permission may kindly be granted to her for conduction of the study at your village. Further details of the proposal project will be furnished by the student personally, Confidentiality will be ensured in the research project.

Thanking you,

Yours faithfully

EXECUTIVE OFFICER
VALVACHAGOSTAM TOWN PANCHAYAT

Principal
Sri K. Ramachandran Naidu
College of Nursing
K.R. Naidu Nagar - 627 753. Karivalam (Via)
Sankarankovil (T.K.) Tirunelveli Dt.,

APPENDIX B

LETTER SEEKING EXPERTS OPINION FOR CONTENT VALIDITY

From

Mrs.Catherin Jiji,
M.Sc. (N) I year,
Sri.K.Ramachandran Naidu College Of Nursing,
Sankarankovil, Tirunelveli District.

To

Respected madam,

Subject : Requisition for expert opinion on suggestion for content validity of the tool.

I am M.Sc. Nursing student of Sri. K. Ramachandran Naidu College of Nursing, Sankarankovil. As a part of my course, Iam doing the study on the topic mentioned below.

"**An experimental study to assess the effectiveness of pelvic rocking exercise on dysmenorrhoea among adolescent girls aged 15-20 years residing in selected villages at kanyakumari district".**

The research project is to be submitted to the Tamilnadu Dr.M.G.R. Medical university as a fulfillment for the requirement of M.Sc.(N)programme.

I request you to kindly evaluate the tool item and give your valuable opinion and suggestion for improvement of the tool.

I would be highly obliged and thankful to hear from you.

Thanking you in anticipation.

Your's sincerely,

APPENDIX – C

LIST OF EXPERTS FOR CONTENT VALIDITY

Medical experts:

1. **Dr.Jeyaseelan, Ph.D,**
   HOD,Community Health Nursing,
   Annai J.K.K Sampoorani Ammal College Of Nursing,
   Ethirmedu,Komarapalayam,
   Namakkal Dist.
2. **Dr,Karunagara prabhu**, MBBS,
   Medical officer,
   Primary health centre,
   Zameen kollankondan,Viruthu Nagar district.

Nursing experts:

1. **Mrs.Diana, M.Sc (N),**
   Vice Principal,
   Christian College Of Nursing,
   Neyyoor,
   Kanyakumari Dist.
2. **Mrs.Padmavathi, M.sc(N),**
   Principal, B.K.R College Of Nursing,
   B.K.R Nagar, Chennai-Tiupathi Highway,
   Tiruvallur District, Tiruttani-631209.
3. **Mrs.Margret, M.sc (N),**
   Nehru College Of Nursing,
   Post Box No-3, Nehru Nagar,
   Tiruchendur Road, Vallioor,
   Tirunelveli District. Pin-627117
4. **Mrs.Gandi mathi.R, M.Sc(N),**
   P.S.G College of nursing,
   Peelamedu,
   Avinasi Road,
   Coimbatore-4.

APPENDIX – E

INFORMED CONSENT

Dear girls,

I, **Mrs.S.Catherin Jiji,** M.sc Nursing II Year student of Sri.K Ramachandran Naidu College of Nursing, conducting a study to “assess the effectiveness of pelvic rocking exercise on dysmenorrhoea among adolescent girls” as a partial fulfillment of the requirement for the degree of M.Sc Nursing under The Tamil Nadu Dr. M.G.R Medical University. The exercise will be provided morning and evening for three weeks. I assure you that information obtained will be kept confidential. So, I request you to kindly co operate with me and participate in this study by giving your frank and voluntary consent.

Thank you.

Signature:

APPENDIX – F

COPY OF THE TOOL

Section A

Demographic variables

1. Age

a.15-16 years

b.17-18 year

c.19-20 years

2. Age at menarche

a.above 10 years

b.10-13 years

c.14-17 years

d.above 17 years

3. Family income

a.Rs.less than 2000

b.RS.2001-3000

c.Rs.3001-4000

d.Rs.4001 and above

4. Religion

a.christian

b.hindu

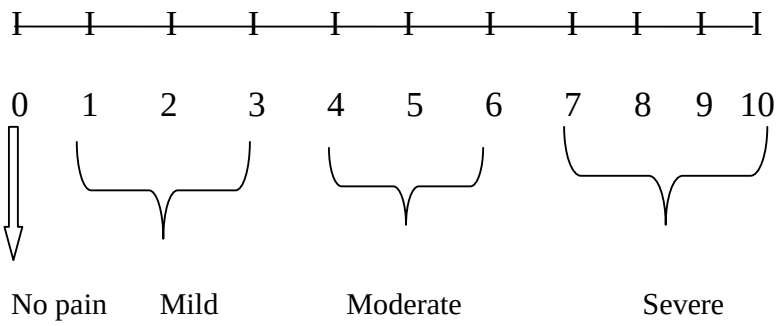
c.muslim

d.others

Section B

Numerical rating pain scale used to assess the level of dysmenorrhoea among the adolescent girls

Numerical rating pain scale



APPENDIX G

SCORING KEY (ENGLISH)

Scoring key:

Score	Score range	Interpretation
0	0	No pain
1	1-3	Mild pain
2	4-6	Moderate pain
3	7-10	Severe pain

0 = No Pain

1-3 = Mild Pain (nagging, annoying, interfering little with ADLs)

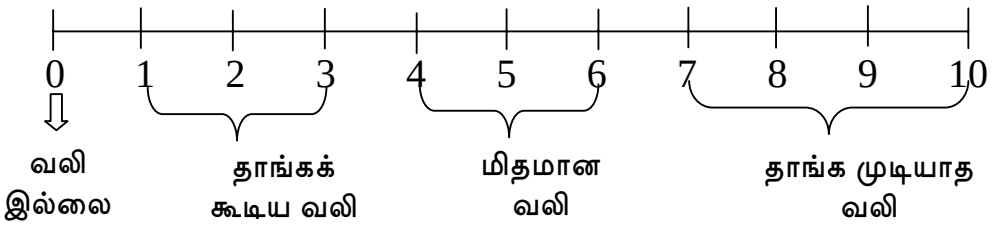
4–6 = Moderate Pain (interferes significantly with ADLs)

7-10 = Severe Pain (disabling; unable to perform ADLs)

APPENDIX-H

மதிப்பெண் அளவீடு (தமிழ்)

வலியின் தன்மையை அளக்கும் அளவு கோல்



மதிப்பெண் அளவீடு:

0 ⟹ வலி இல்லை.

1-3⟹ உணரக்கூடிய மிதமான வலி, எரிச்சலுடன் கூடிய மிதமான வலி,

அன்றாட கடமைகளை சிறிதளவில் பாதிக்கக்கூடிய மிதமான வலி.

4-6 ⟹தொடர்ந்து அன்றாட கடமைகளை தடைசெய்யக்கூடிய வலி.

7-10⇨உடல் பலகீனத்தை ஏற்படுத்தும் வலி, அன்றாட கடமைகளை முற்றிலுமாக

தடைசெய்யக்கூடிய வலி.

APPENDIX-I

Pelvic rocking exercise

Pelvic rocking exercises an exercise which contracts deep abdominal muscles and buttocks by taking deep breath, so that a small movement takes place inside the uterus.

The pelvic rocking exercise help in smoothing an aching back , relieving pain, increased vasodilatation and subsequent decreased the ischemia by release of endogenous opiates, specifically beta endorphins, suppression of prostaglandins and shunting of blood from away from the viscera, resulting in relaxation of the abdominal and uterine muscles and increasing blood supply to the uterus. The exercise can suggest that pelvic rocking exercise was more effective in adolescent girls to relieve from dysmenorrhea.

The following instructions are given before pelvic rocking exercise:

- Before doing the exercise empty the bladder.
- Be relaxed.
- It should be practiced in empty stomach or1 ½ hours after eating.
- Do not wear tight dresses.
- While taking deep breath muscles of abdomen and buttocks must be tightened simultaneously for the counts 1-2-3-4.
- During exhaling for a counts (4-3-2-1) feel flattening of the back curve, the underneath hand must be felt.
- Repeat this exercise 10 times.
- This exercise to be done twice a day (morning and evening).
- Avoid this exercise during menstrual period.

Steps:

- Lie down on your back, supporting the head with pillow.
- Bend the knees.
- Keep the foot flat on floor.
- Place one hand under the curve of the back.
- Place another hand on top of the abdomen.
- Tighten the buttocks and abdominal muscles simultaneously, inhale and hold (1-2-3-4).
- Exhale 4-3-2-1 and relax the muscles and feel your back flat on the underneath hand.
- Repeat the last two steps for about 10 times twice a day for 3 weeks.